CALL NO. 303

CONTRACT ID. 122474

KENTON COUNTY

FED/STATE PROJECT NUMBER FD04 SPP 059 0275 082-002

DESCRIPTION I-275 WEST AND EAST (I-275)

WORK TYPE ASPHALT PAVEMENT & ROADWAY REHAB

PRIMARY COMPLETION DATE 9/30/2013

LETTING DATE: December 14,2012

Sealed Bids will be received electronically through the Bid Express bidding service until 10:00 A.M. EASTERN STANDARD TIME December 14,2012. Bids will be publicly announced at 10:00 A.M. EASTERN STANDARD TIME.

NO PLANS ASSOCIATED WITH THIS PROJECT.

REQUIRED BID PROPOSAL GUARANTY: Not less than 5% of the total bid.

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PART I

SCOPE OF WORK

ADMINISTRATIVE DISTRICT - 06

CONTRACT ID - 122474

FD04 SPP 059 0275 082-002

COUNTY - KENTON

PCN - MP05902751201
FD04 SPP 059 0275 082-002

I-275 WEST AND EAST (I-275) (MP 82.475) FROM US 25 OVERPASS TO TURFWAY ROAD OVERPASS (MP 1.100), A DISTANCE OF 02.40 MILES.ASPHALT PAVEMENT & ROADWAY REHAB SYP NO. 06-02038.00.

GEOGRAPHIC COORDINATES LATITUDE 84:35:59.00 LONGITUDE 39:02:05.00

COMPLETION DATE(S):

COMPLETED BY 09/30/2013 APPLIES TO ENTIRE CONTRACT

CONTRACT NOTES

PROPOSAL ADDENDA

All addenda to this proposal must be applied when calculating bid and certified in the bid packet submitted to the Kentucky Department of Highways. Failure to use the correct and most recent addenda may result in the bid being rejected.

BID SUBMITTAL

Bidder must use the Department's Expedite Bidding Program available on the Internet web site of the Department of Highways, Division of Construction Procurement. (www.transportation.ky.gov/contract)

The Bidder must download the bid file located on the Bid Express website (www.bidx.com) to prepare a bid packet for submission to the Department. The bidder must submit electronically using Bid Express.

JOINT VENTURE BIDDING

Joint venture bidding is permissible. All companies in the joint venture must be prequalified in one of the work types in the Qualifications for Bidders for the project. The bidders must get a vendor ID for the joint venture from the Division of Construction Procurement and register the joint venture as a bidder on the project. Also, the joint venture must obtain a digital ID from Bid Express to submit a bid. A joint bid bond of 5% may be submitted for both companies or each company may submit a separate bond of 5%.

UNDERGROUND FACILITY DAMAGE PROTECTION

The contractor is advised that the Underground Facility Damage Protection Act of 1994, became law January 1, 1995. It is the contractor's responsibility to determine the impact of the act regarding this project, and take all steps necessary to be in compliance with the provision of the act.

SPECIAL NOTE FOR PIPE INSPECTION

Contrary to Section 701.03.08 of the 2012 Standard Specifications for Road and Bridge Construction and Kentucky Method 64-114, certification by the Kentucky Transportation Center for prequalified Contractors to perform laser/video inspection is not required on this contract. It will continue to be a requirement for the Contractor performing any laser/video pipe inspection to be prequalified for this specialized item with the Kentucky Transportation Cabinet-Division of Construction Procurement.

REGISTRATION WITH THE SECRETARY OF STATE BY A FOREIGN ENTITY

Pursuant to KRS 176.085(1)(b), an agency, department, office, or political subdivision of the Commonwealth of Kentucky shall not award a state contract to a person that is a foreign entity required by KRS 14A.9-010 to obtain a certificate of authority to transact business in the Commonwealth ("certificate") from the Secretary of State under KRS 14A.9-030 unless the person produces the certificate within fourteen (14) days of the bid or proposal opening. If the foreign entity is not required to obtain a certificate as provided in KRS 14A.9-010, the foreign entity should identify the applicable exception. Foreign entity is defined within KRS 14A.1-070.

For all foreign entities required to obtain a certificate of authority to transact business in the Commonwealth, if a copy of the certificate is not received by the contracting agency within the time frame identified above, the foreign entity's solicitation response shall be deemed non-responsive or the awarded contract shall be cancelled.

Businesses can register with the Secretary of State at https://secure.kentucky.gov/sos/ftbr/welcome.aspx .

SPECIAL NOTE FOR PROJECT QUESTIONS DURING ADVERTISEMENT

Questions about projects during the advertisement should be submitted in writing to the Division of Construction Procurement. This may be done by fax (502) 564-7299 or email to kytc.projectquestions@ky.gov. The Department will attempt to answer all submitted questions. The Department reserves the right not to answer if the question is not pertinent or does not aid in clarifying the project intent.

The deadline for posting answers will be 3:00 pm Eastern Daylight Time, the day preceding the Letting. Questions may be submitted until this deadline with the understanding that the later a question is submitted, the less likely an answer will be able to be provided.

The questions and answers will be posted for each Letting under the heading "Questions & Answers" on the Construction Procurement website (www.transportation.ky.gov/contract). The answers provided shall be considered part of this Special Note and, in case of a discrepancy, will govern over all other bidding documents.

HARDWOOD REMOVAL RESTRICTIONS

The Kentucky Division of Forestry has imposed a quarantine in Anderson, Boone, Bourbon, Boyd, Boyle, Bracken, Campbell, Carroll, Fayette, Franklin, Gallatin, Garrard,

Grant, Greenup, Hardin, Harrison, Henry, Jefferson, Jessamine, Kenton, Oldham, Owen, Pendleton, Scott, Shelby, Trimble, and Woodford Counties to prevent the spread of an invasive insect, the emerald ash borer. Hardwood cut in conjunction with the project may not be removed from the county of its origin. Chipping or burning on site is the preferred method of disposal.

INSTRUCTIONS FOR EXCESS MATERIAL SITES AND BORROW SITES

Identification of excess material sites and borrow sites shall be the responsibility of the Contractor. The Contractor shall be responsible for compliance with all applicable state and federal laws and may wish to consult with the US Fish and Wildlife Service to seek protection under Section 10 of the Endangered Species Act for these activities.

ACCESS TO RECORDS

The contractor, as defined in KRS 45A.030 (9) agrees that the contracting agency, the Finance and Administration Cabinet, the Auditor of Public Accounts, and the Legislative Research Commission, or their duly authorized representatives, shall have access to any books, documents, papers, records, or other evidence, which are directly pertinent to this contract for the purpose of financial audit or program review. Records and other prequalification information confidentially disclosed as part of the bid process shall not be deemed as directly pertinent to the contract and shall be exempt from disclosure as provided in KRS 61.878(1)(c). The contractor also recognizes that any books, documents, papers, records, or other evidence, received during a financial audit or program review shall be subject to the Kentucky Open Records Act, KRS 61.870 to 61.884.

In the event of a dispute between the contractor and the contracting agency, Attorney General, or the Auditor of Public Accounts over documents that are eligible for production and review, the Finance and Administration Cabinet shall review the dispute and issue a determination, in accordance with Secretary's Order 11-004. (See attachment)

09/26/2012

SPECIAL NOTE FOR RECIPROCAL PREFERENCE

Reciprocal preference to be given by public agencies to resident bidders

By reference, KRS 45A.490 to 45A.494 are incorporated herein and in compliance regarding the bidders residency. Bidders who want to claim resident bidder status should complete the Affidavit for Claiming Resident Bidder Status along with their bid in the Expedite Bidding Program. Submittal of the Affidavit should be done along with the bid in Bid Express.

PROJECT TRAFFIC COORDINATOR (PTC)

Be advised this project is a significant project pursuant to section 112.03.12.

DGA BASE FOR SHOULDERS

Unless otherwise noted, the Department estimates the rate of application for DGA Base for Shoulders to be 115 lbs/sy per inch of depth. The Department will not measure necessary grading and/or shaping of existing shoulders prior to placing of DGA Base, but shall be incidental to the Contract unit price per ton for DGA Base.

Accept payment at the Contract unit price per ton as full compensation for all labor, materials, equipment, and incidentals for grading and/or shaping of existing shoulders and furnishing, placing, and compacting the DGA Base.

FUEL AND ASPHALT PAY ADJUSTMENT

The Department has included the Contract items Asphalt Adjustment and Fuel Adjustment for possible future payments at an established Contract unit price of $1.00. The Department will calculate actual adjustment quantities after work is completed. If existing Contract amount is insufficient to pay all items on the contract with the adjustments, the Department will establish additional monies with a change order.

OPTION B

Be advised that the Department will control and accept compaction of asphalt mixtures furnished on this project under OPTION B in accordance with Sections 402 and 403.

SPECIAL NOTES FOR I-275 PCC PATCHING
KENTON COUNTY
FD04 059 0275 000-002
FD04 059 0275 082-084

I. DESCRIPTION

Perform all work shall in accordance with the Department's 2012 Standard Specifications, Supplemental Specifications, and other applicable Special Provisions, and applicable Standard Drawings, except as hereafter specified. Article references are to the Standard Specifications. Furnish all materials, labor, equipment, and incidentals for the following work:

(1) Remove and replace PCC Pavement at the locations listed and/or as directed by the Engineer; (2) Maintain and Control Traffic; and (3) All other work specified as part of this contract.

II. MATERIALS

The Department will sample and test all materials according to Department's Sampling Manual. Make the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing, unless otherwise specified in these notes.

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Portland Cement Concrete Pavement. Use non-reinforced JPC Pavement 24 for full depth replacement of concrete pavement. At Contractor’s option with no additional cost to the Department, use other high early strength rapid setting concrete; however, obtain the Engineer’s approval prior to use. Either central mixing or truck mixing will be allowed.

C. Tie Bars and Dowels. Install tie bars and dowels according to the 2012 Specifications.

D. Pavement Markings. See Traffic Control Plan.

E. Joint and Random Crack Sealant. Use hot poured elastic, no alternates.

III. CONSTRUCTION METHODS

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site Preparation. Be responsible for all site preparation. This item shall include, but is not limited to, incidental excavation and backfilling; removal of all obstructions or any other

items; disposal of materials; sweeping and removal of debris; temporary and permanent erosion and pollution control; and any other incidentals. All site preparation shall be only as approved or directed by the Engineer. Other than the bid items listed, no direct payment will be made for site preparation, but shall be incidental to the other items of the work.

C. Concrete Pavement Removal and Replacement. Except as specified in these notes, full depth concrete pavement removal and replacement shall be in accordance with 2012 Standard Specifications for Concrete Pavement Replacement and Repair. Removal locations listed are approximate only; actual locations will be determined by the Engineer at the time of construction. The Engineer may add additional locations within the project limits at any time prior to completion. Remove pavement by a saw cut and lift method without unnecessarily disturbing the underlying base. Double sawing of slab removal limits will be required. Overcutting into adjacent slabs will not be permitted. The nominal depth of the PCC Pavement shall be 11 inches; however, the finished grade of the PCC Pavement shall be transitioned to match the adjacent pavement that is to remain in place; therefore, the actual thickness of the pavement may be greater than existing in some areas. Gang drills, capable of drilling a minimum of four holes at a time, will be required for dowel and tie bar placement. Submit a Concrete mix design, within KYTC requirements, that meets a minimum compressive strength of 3500 psi with payment based on the schedule in Part V Section C: Basis of Payment for JPC Pavement 11". Chloride accelerators will not be allowed.

Perform concrete pavement removal and replacement in such a manner that removal and replacement shall be accomplished on the same day at each location. Once the removal of pavement has begun, work continuously until the new PCC Pavement is placed to eliminate the hole. Hand finishing will be allowed; however, the initial strike-off shall be with a rotary drum screed. Texturing of the pavement by the formation of transverse grooves will be required.

D. Joint Sealing. Saw-cut- clean, and seal all transverse and longitudinal joints and the pavement shoulder joints in the new pavement areas.

E. Disposal of Waste. Dispose of all removed concrete, asphalt materials, debris, excess excavation, and other waste off the right-of-way at approved sites obtained by the Contractor at no cost to the Department. The Engineer will not allow temporary openings in the right of way fence for direct access to waste sites off the right of way or for access to other public roads.

F. Final Dressing, Clean Up, and Seeding and Protection. After all work is completed, remove all waste and debris from the construction sites. Remove all temporary shoulder widening and restore disturbed median and shoulders. Perform Class A Final Dressing on all disturbed areas. Sow disturbed earthen areas with Seed Mixture No. I.

G. Restoration. Restore any roadway features disturbed by the work or the Contractor's operations in like kind materials and design as directed by the Engineer.

H. Pavement Striping and Pavement Markers. See Traffic Control Plan.

I. On-Site Inspection. Each Contractor submitting a bid for this work shall make a thorough inspection of the site prior to submitting his bid and shall thoroughly familiarize himself with existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department.

IV. LOCATIONS OF PCC PAVEMENT REPLACEMENT

I-275 West right lane at US 25 overpass approach –
approx 30’ x 12’ MP 82.475
I-275 West right, center and left lanes at US 25 overpass deproach –
approx 36’ x 15’ MP 82.526
I-75 North to I-275 east and west –
left lane approx 15’ x 12’, center lane approx 60’ x 12’ MP 0.175 on ramp

V. METHOD OF MEASUREMENT

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site Preparation. Other than the bid items listed, site preparation will not be measured for payment, but shall be incidental to the other items of the work.

C. Remove PCC Pavement. See 2012 Standard Specifications. Will be measured for payment.

D. JPC Pavement 11" 24 Hr. JPC Pavement 11" 24Hr will be measured for payment.

E. Smooth Dowels and Deformed Tie Bars. Smooth dowels and deformed tie bars will not be measured for payment, but shall be incidental to JPC Pavement 11” 24 Hr.

F. Saw-Clean-Seal Joints. Longitudinal and transverse joints and pavement shoulder joints sealed in new pavement area will not be measured for payment , but will be incidental to 11” JPC Pavement.

G. Raised Pavement Markers and Temporary and Permanent Striping. See Traffic

Control Plan.

H. Remove Type V Pavement Markers. Removing and Replacing Type V pavement markers will not be measured for payment, but shall be incidental Removing PCC Pavement.

I. Final Dressing, Clean Up, and Seeding and Protection. Final Dressing, Clean Up, and Seeding and Protection will not be measured for separate payment, but shall be incidental to other items of work.

J. Restoration. All items of restoration will not be measured for payment, but shall be incidental to the other items of work.

No direct payment will be made other than for the bid items listed. All other items required to complete the construction shall be incidental to the bid items listed.

* If Engineer's approval is required for opening of traffic, Engineer will evaluate at 28 days (or sooner) to determine if remove and replace is necessary due to pavement distress induced by early opening (i.e. noticeable cracking). Remove and replace would be performed at Contractor's expense and only apply to those slabs showing distress.

SPECIAL NOTES FOR I-275 SHOULDER REPLACEMENT
KENTON COUNTY
FD04 059 0275 000-002
FD04 059 0275 082-084

I. DESCRIPTION

Perform all work shall in accordance with the Department's 2012 Standard Specifications, Supplemental Specifications, and other applicable Special Provisions, and applicable Standard Drawings, except as hereafter specified. Article references are to the Standard Specifications. Furnish all materials, labor, equipment, and incidentals for the following work:

(1) Remove the PCC Pavement shoulder at the locations listed replace with asphalt pavement as described and/or as directed by the Engineer; (2) Install sawed rumble strips; (3) Maintain and Control Traffic; and (4) All other work specified as part of this contract.

II. MATERIALS

The Department will sample and test all materials according to Department's Sampling Manual. Make the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing, unless otherwise specified in these notes.

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Asphalt Base and Surface.
Use Class 3 Asphalt Base 1.00D PG 64-22 at a depth of 7” to be applied in 3.5” lifts.
Use Class 3 Asphalt Surface 0.38D PG 64-22 at a depth of 1”.

III. CONSTRUCTION METHODS

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site Preparation. Be responsible for all site preparation. This item shall include, but is not limited to, incidental excavation and backfilling; removal of all obstructions or any other items; disposal of materials; sweeping and removal of debris; temporary and permanent erosion and pollution control; and any other incidentals. All site preparation shall be only as approved or directed by the Engineer. Other than the bid items listed, no direct payment will be made for site preparation, but shall be incidental to the other items of the work.

C. Concrete Pavement Removal and Replacement. Except as specified in these notes, full depth concrete pavement removal with asphalt pavement replacement shall be in accordance with 2012 Standard Specifications. Removal locations listed are approximate only; actual locations will be determined by the Engineer at the time of construction. The Engineer may

add additional locations within the project limits at any time prior to completion. Remove pavement by a saw cut and lift method without unnecessarily disturbing the underlying base. Saw cut as near as possible to the median barrier wall and along the shoulder joint. Overcutting into adjacent slabs will not be permitted. The nominal depth of the PCC Pavement to be removed is 8 inches; however, the finished grade of the Asphalt Pavement shall be transitioned to match the adjacent pavement that is to remain in place; therefore, the actual thickness of the pavement may be greater than existing in some areas.

Perform concrete pavement removal and asphalt replacement in accordance with the traffic control plan

D. Sawed Rumble Strips. Install sawed rumble strips on the newly constructed asphalt shoulder according to the 2012 Standard Specifications.

E. Disposal of Waste. Dispose of all removed concrete, asphalt materials, debris, excess excavation, and other waste off the right-of-way at approved sites obtained by the Contractor at no cost to the Department. The Engineer will not allow temporary openings in the right of way fence for direct access to waste sites off the right of way or for access to other public roads.

F. Final Dressing, Clean Up, and Seeding and Protection. After all work is completed, remove all waste and debris from the construction sites. Remove all temporary shoulder widening and restore disturbed median and shoulders. Perform Class A Final Dressing on all disturbed areas. Sow disturbed earthen areas with Seed Mixture No. I.

G. Restoration. Restore any roadway features disturbed by the work or the Contractor's operations in like kind materials and design as directed by the Engineer.

H. Pavement Striping and Pavement Markers. See Traffic Control Plan.

I. On-Site Inspection. Each Contractor submitting a bid for this work shall make a thorough inspection of the site prior to submitting his bid and shall thoroughly familiarize himself with existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department.

IV. LOCATIONS OF PCC PAVEMENT REPLACEMENT

I-275 West inside shoulder from the US 25 overpass to the I-75 overpass
10’ wide shoulder from MP 82.526 – 83.750
I-275 East inside shoulder from the I-75 overpass to the US 25 overpass
10’ wide shoulder from MP 82.526 – 83.750

V. METHOD OF MEASUREMENT

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site Preparation. Other than the bid items listed, site preparation will not be measured for payment, but shall be incidental to the other items of the work.

C. Remove PCC Pavement. See 2012 Standard Specifications. Will be measured for payment.

D. Class 3 Asph Base 1.00D 64-22. Will be measured for payment.

E. Class 3 Asph Surf 0.38D 64-22. Will be measured for payment

F. Sawed Rumble Strips. Will be measured for payment.

G.Final Dressing, Clean Up, and Seeding and Protection. Final Dressing, Clean Up, and Seeding and Protection will not be measured for separate payment, but shall be incidental to other items of work.

H. Restoration. All items of restoration will not be measured for payment, but shall be incidental to the other items of work.

No direct payment will be made other than for the bid items listed. All other items required to complete the construction shall be incidental to the bid items listed.

SPECIAL NOTES FOR DIAMOND GRINDING AND JOINT SEALING KENTON COUNTY FD04 059 0275 000-002 FD04 059 0275 082-084

I. DESCRIPTION

Perform all work shall in accordance with the Department's 2012 Standard Specifications, Supplemental Specifications, and other applicable Special Provisions, and applicable Standard and Sepia Drawings, except as hereafter specified. Article references are to the Standard Specifications. Furnish all materials, labor, equipment, and incidentals for the following work:

(1) Diamond Grind all PCC Pavement at the locations listed and/or as directed by the Engineer; (2) Seal all Longitudinal joints and Transverse joints (3)Maintain and Control Traffic; and (4) All other work specified as part of this contract.

II. MATERIALS

The Department will sample and test all materials according to Department's Sampling Manual. Make the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing, unless otherwise specified in these notes.

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Pavement Markings. See Traffic Control Plan.

C. Joint Sealant. Use hot poured elastic, no alternates.

III. CONSTRUCTION METHODS

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site Preparation. Be responsible for all site preparation. This item shall include, but is not limited to, incidental excavation and backfilling; removal of all obstructions or any other items; disposal of materials; sweeping and removal of debris; temporary and permanent erosion and pollution control; and any other incidentals. All site preparation shall be only as approved or directed by the Engineer. Other than the bid items listed, no direct payment will be made for site preparation, but shall be incidental to the other items of the work.

C. Joint Sealing. Saw-cut- clean, and seal all transverse and longitudinal joints and the pavement shoulder joints in pavement areas according to section 501.03.17.

D. Disposal of Waste. Dispose of all removed concrete, asphalt materials, debris, excess excavation, and other waste off the right-of-way at approved sites obtained by the Contractor at no cost to the Department. The Engineer will not allow temporary openings in the right of way fence for direct access to waste sites off the right of way or for access to other public roads.

E. Final Dressing, Clean Up, and Seeding and Protection. After all work is completed, remove all waste and debris from the construction sites. Remove all temporary shoulder widening and restore disturbed median and shoulders. Perform Class A Final Dressing on all disturbed areas. Sow disturbed earthen areas with Seed Mixture No. I.

F. Restoration. Restore any roadway features disturbed by the work or the Contractor's operations in like kind materials and design as directed by the Engineer.

G. Pavement Striping and Pavement Markers. See Traffic Control Plan.

H. On-Site Inspection. Each Contractor submitting a bid for this work shall make a thorough inspection of the site prior to submitting his bid and shall thoroughly familiarize himself with existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department.

IV. LOCATIONS

Joint Sealing – Perfrom joint sealing on longitudinal and transverse joints from shoulder to shoulder on I-275 West and East Bound. Begin sealing at the west end of the US 25 overpass (MP 82.475) and continue to the east end of the I-75 overpass (MP 83.70). Continue sealing from the west end of the I-75 overpass (MP 0.000) and end at the west end of the Turfway Road overpass (MP 1.100).

Diamond Grinding – Perfrom Diamond Grinding on the following ramps:

I-75 south ramp to I-275 east
I-75 north ramp to I-275 west
I-275 west to I-75 north

Diamond grinding will begin and end at the pavement changes. Exact termini will be marked by the project engineer. Perform Diamond grinding between pavement striping. Seal all joints located in within the diamond grinded area.

V. METHOD OF MEASUREMENT

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site Preparation. Other than the bid items listed, site preparation will not be measured for payment, but shall be incidental to the other items of the work.

C. Saw-Clean-Seal Joints. Linear feet of Longitudinal and transverse joints sealed.

D. Diamond Grinding. Square yards of PCC pavement ground.

E. Temporary and Permanent Striping. See Traffic Control Plan.

E. Remove Type V Pavement Markers. Removing and Replacing Type V pavement markers will be incidental.

F. Final Dressing, Clean Up, and Seeding and Protection. Final Dressing, Clean Up, and Seeding and Protection will not be measured for separate payment, but shall be incidental to other items of work.

G. Restoration. All items of restoration will not be measured for payment, but shall be incidental to the other items of work.

SPECIAL NOTES FOR I-275
WEDGE CURB/SHOULDERING/DRAINAGE
KENTON COUNTY
FD04 059 0275 000-002
FD04 059 0275 082-084

I. DESCRIPTION

Perform all work shall in accordance with the Department's 2012 Standard Specifications, Supplemental Specifications, and other applicable Special Provisions, and applicable Standard Drawings, except as hereafter specified. Article references are to the Standard Specifications. Furnish all materials, labor, equipment, and incidentals for the following work:

(1) Install asphalt wedge curb, flumes and DGA at the locations listed replace as described and/or as directed by the Engineer; (2) Remove and reset Guardrail (3) Maintain and Control Traffic; and (4) All other work specified as part of this contract.

II. MATERIALS

The Department will sample and test all materials according to Department's Sampling Manual. Make the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing, unless otherwise specified in these notes.

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Asphalt Wedge Curb.

C. Concrete Flume Inlet. Use Type 1

D. DGA. Dense Graded Aggregate used for shoulder drop-offs.

III. CONSTRUCTION METHODS

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site Preparation. Be responsible for all site preparation. This item shall include, but is not limited to; removal of all obstructions or any other items; disposal of materials; sweeping and removal of debris; temporary and permanent erosion and pollution control; and any other incidentals. All site preparation shall be only as approved or directed by the Engineer. Other than the bid items listed, no direct payment will be made for site preparation, but shall be incidental to the other items of the work.

C. Asphalt Wedge Curb. Except as specified in these notes, asphalt wedge curb installation

shall be in accordance with 2012 Standard Specifications. Installation locations listed are approximate only; actual locations will be determined by the Engineer at the time of construction. The Engineer may add additional locations within the project limits at any time prior to completion.

D. Flume Inlet Type 1. Shall be installed according to the 2012 Specifications and at the locations listed or as determined by the project engineer.

E. DGA. Shall be placed where the shoulder drop off exceeds 1". Locations will be determine by the project engineer.

F. Remove and Reset Guardrail. Remove and reset guardrail if necessary to install asphalt wedge curb and/or flumes. Locations will be determine by the project engineer.

G. Disposal of Waste. Dispose of all removed asphalt materials, debris, excess excavation, and other waste off the right-of-way at approved sites obtained by the Contractor at no cost to the Department. The Engineer will not allow temporary openings in the right of way fence for direct access to waste sites off the right of way or for access to other public roads.

H. Final Dressing, Clean Up, and Seeding and Protection. After all work is completed, remove all waste and debris from the construction sites. Remove all temporary shoulder widening and restore disturbed median and shoulders. Perform Class A Final Dressing on all disturbed areas. Sow disturbed earthen areas with Seed Mixture No. I.

I. Restoration. Restore any roadway features disturbed by the work or the Contractor's operations in like kind materials and design as directed by the Engineer.

J. On-Site Inspection. Each Contractor submitting a bid for this work shall make a thorough inspection of the site prior to submitting his bid and shall thoroughly familiarize himself with existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made. Any claims resulting from site conditions will not be honored by the Department.

IV. LOCATIONS

Asphalt Wedge Curb – I-75 south to I-275 west ramp MP 0.46 – 0.64
I-275 west mainline MP 0.733 – 1.044

Flume Inlet Type 1 - I-75 south to I-275 west ramp @ MP 0.55
I-275 west outside shoulder @ MP 0.733, 0.8, 0.965

DGA - I-275 west right shoulder from MP 0.78 – 1.044
Other locations determined by Engineer

V. METHOD OF MEASUREMENT

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site Preparation. Other than the bid items listed, site preparation will not be measured for payment, but shall be incidental to the other items of the work.

C. Asphalt Wedge Curb. See 2012 Standard Specifications. Will be measured for payment.

D. Flume Inlet Type 1. Will be measured for payment.

E. DGA. Will be measured for payment

F. Remove and Reset Guardrail. Will be measured for payment.

G. Final Dressing, Clean Up, and Seeding and Protection. Final Dressing, Clean Up, and Seeding and Protection will not be measured for separate payment, but shall be incidental to other items of work.

H. Restoration. All items of restoration will not be measured for payment, but shall be incidental to the other items of work.

No direct payment will be made other than for the bid items listed. All other items required to complete the construction shall be incidental to the bid items listed.

059B00059L

ITEM CODE	DESCRIPTION	QUANTITY	UNIT
08510	REM EPOXY BIT FOREIGN OVERLAY	1,531	SQ. YD.
08549	BLAST CLEANING	1,599	SQ. YD.
08504	EPOXY SAND SLURRY	69	SQ. YD.
08534	CONCRETE OVERLAY-LATEX	63	CU. YD.
24094EC	PARTIAL DEPTH PATCHING	25	CU. YD.
08526	CONC CLASS M FULL DEPTH PATCH	4	CU. YD.
03298	EXPAN JOINT REPLACE 4"	133.6	LIN. FT.
03299	ARMORED EDGE FOR CONCRETE	133.6	LIN. FT.
08150	STEEL REINFORCEMENT	534	LBS
03171	Barrier Wall 9t	610	LF
02003	Relocate Temp Conc Barrier	610	LF
06549	Temp Rem Tape - Black 8"	3,500	LF
06550	Temp Rem Tape - White 6"	6,500	LF
06551	Temp Rem Tape - Yellow 6"	5,000	LF
06515	6" Perm Paint	1,050	LF
02654	Truck Mounted Attenuator	1	Each
02775	FLASHING ARROW	1	Each
02650	Maintain Control Traffic*	1	Lump Sum
02671	Portable Changeable Sign	2	Each
08903	CRASH CUSHION TY VI CLASS BT TL3	1	Each
02898	Relocate Crash Cushion	1	Each
02562	Signs	250	SQ. FT

059B00060N

ITEM CODE	DESCRIPTION	QUANTITY	UNIT
03298	EXPAN JOINT REPLACE 4"	123	LIN. FT.
03299	ARMORED EDGE FOR CONCRETE	123	LIN. FT.
08150	STEEL REINFORCEMENT	534.4	LBS
02650	Maintain Control Traffic*	1	Lump Sum
02671	Portable Changeable Sign	2	Each
02562	SIGNS	120	SQ. FT

059B00054L

ITEM CODE	DESCRIPTION	QUANTITY	UNIT
03298	EXPAN JOINT REPLACE 4"	120	LIN. FT.
03299	ARMORED EDGE FOR CONCRETE	120	LIN. FT.
08150	STEEL REINFORCEMENT	267.2	LBS
06549	Temp Rem Tape - Black 8"	3,500	LIN. FT.
06550	Temp Rem Tape - White 6"	7,000	LIN. FT.
06551	Temp Rem Tape - Yellow 6"	6,000	LIN. FT.
02671	Portable Changeable Sign	1	Each
02775	Flashing Arrow	1	Each
02654	Truck Mounted Attenuator	2	Each
02562	Signs	250	SQ. FT
02650	Maintain Control Traffic*	1	Lump Sum

059B00054R

ITEM CODE	DESCRIPTION	QUANTITY	UNIT
03298	EXPAN JOINT REPLACE 4"	120	LIN. FT.
03299	ARMORED EDGE FOR CONCRETE	120	LIN. FT.
08150	STEEL REINFORCEMENT	267.2	LBS
06549	Temp Rem Tape - Black 8"	3,500	LIN. FT.
06550	Temp Rem Tape - White 6"	7,000	LIN. FT.
06551	Temp Rem Tape - Yellow 6"	6,000	LIN. FT.
02671	Portable Changeable Sign	1	Each
02775	Flashing Arrow	1	Each
02654	Truck Mounted Attenuator	2	Each
02650	Maintain Control Traffic*	1	Lump Sum
02562	Signs	250	SQ. FT

* Will only be paid once

SPECIAL NOTE FOR BRIDGE RESTORATION AND WATERPROOFING WITH CONCRETE OVERLAYS

I. DESCRIPTION. Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highway's 2012 Standard Specifications for Road and Bridge Construction and applicable Supplemental Specifications, the Standard Drawings, this Note, and the attached detail drawings. Section references are to the Standard Specifications.

This work consists of the following: (1) Furnish all labor, materials, tools, and equipment; (2) Remove the existing overlay; (3) Complete full-depth and partial depth repairs as directed by the Engineer; (4) Repair/replace damaged and corroded reinforcing bars; (5) Place new concrete overlay and epoxy-sand slurry in accordance with Section 606; (6) Complete asphalt approach pavement; (7) Maintain and control traffic; and (8) Any other work specified as part of this contract.

All construction will be in accordance with Section 606 unless otherwise specified.

II. MATERIALS.

A. Latex Concrete. See Section 606.03.17.

B. Class "M" Concrete. Use either "M1" or "M2". See Section 601.

C. Epoxy-Sand Slurry. See Section 606.03.10.

III. CONSTRUCTION.

A. Remove Existing Overlay. In addition to Section 606.03.03, totally remove the existing concrete overlay by milling.

B. Partial Depth Slab Repair and Latex Overlay. Remove areas determined to be unsound by the Engineer via hydrodemolition or via hand held jackhammers weighing less than 45lbs in accordance with Section 606.02.10 D. Repair/Replace all damaged or severely corroded reinforcing bars prior to partial depth repair operation. The Department will not measure material removal and will consider this work incidental to the bid item "PARTIAL DEPTH PATCHING". Mix and place Latex Modified Concrete Overlay in accordance with Sections 606.03.08 and 606.03.17.

C. Surface Texturing. Texture the concrete surface of the overlay in accordance with Section 609.03.10.

IV. MEASUREMENT. See Section 606 and the following:

A. Latex Modified Concrete for Overlay. The Department will measure the quantity in cubic yards using the theoretical volume as follows for each bridge:

059B000059L (56'x242'x1.50") • 63 cuyd

B. Latex Modified Concrete for Partial Depth Patching and variable thickness of Overlay. The Department will measure the quantity in cubic yards by deducting the theoretical volume of bridge deck overlay (LMC) from the total volume (as indicated

by the batch quantity tickets) of Concrete required to obtain the finished grade shown on the Plans or established by the Engineer.

C. Remove Existing Overlay. The Department will measure the removal of the existing overlay in square yards, which shall include all labor, equipment, and material needed to complete this work.

D. Steel Reinforcement. The Department will measure any reinforcing steel necessary for the partial or full depth patch in pounds, which shall include all labor, equipment, and material needed to complete this work.

V. PAYMENT. See Section 606 and the following:

A. Latex Modified Concrete for Overlay. The Department will make payment for the Latex Modified Concrete under bid item #08534 "CONCRETE OVERLAY – LATEX" for the theoretical quantity.

B. Latex Modified Concrete for Partial Depth Patching and variable thickness of Overlay. The Department will make payment for the Partial Depth Patching under bid item #24094EC "PARTIAL DEPTH PATCHING". Payment will be for the quantity per cubic yard complete in place.

C. Remove Existing Overlay. The Department will make payment for the removal of the existing overlay under the bid item #08510 "REM EPOXY BIT FOREIGN OVERLAY". Payment will be for the square yard complete.

D. Steel Reinforcement. The Department will make payment for steel reinforcement, if necessary, under bid item #08150 "STEEL REINFORCEMENT". Payment will be at the unit price per pound.

SPECIAL NOTE FOR REPLACING EXPANSION DAMS AND/OR INSTALLING ARMORED EDGES FOR CONCRETE ON BRIDGES

I. DESCRIPTION. Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highway's 2012 Standard Specifications for Road and Bridge Construction and applicable Supplemental Specifications, the Standard Drawings, this Note, and the attached detail drawings. Section references are to the Standard Specifications.

This work consists of the following: (1) Furnish all labor, materials, tools, and equipment; (2) Remove existing concrete and expansion device(s) and/or bridge ends; (3) Install armored edges and new concrete as specified and in accordance with the attached detail drawings; (4) Install new joint seals (where required); (5) Maintain and control traffic; and (6) Any other work specified as part of this contract.

II. MATERIALS.

A. Class "M" Concrete. Use either "M1" or "M2". See Section 601.

B. Structural Steel. Use new, commercial grade steel suitable for welding. The Engineer will base acceptance on visual inspection. See Standard Drawing BJE-001, current edition.

C. Stud Anchors. The armored edge stud anchors are ¾" x 6" embedded stud shear connectors conforming to ASTM A108, Grade 1015 (Nelson Studs or equal).

D. Steel Reinforcement. Use Grade 60. See Section 602.

E. Epoxy Bond Coat. See Section 511.

F. Neoprene Strip Seals. See attached detail drawings and Section 807.

III. EQUIPMENT.

A. Hammer. Provide See Section 606.02.10 B.

B. Sawing Equipment. See Section 606.02.10 C.

C. Hydraulic Impact Equipment. See Section 606.02.10 D.

IV. CONSTRUCTION.

A. Remove Existing Materials. Remove existing Expansion Dam, Bridge End, Armored Edges and specified areas of concrete as shown on the attached sketches. Remove debris and/or expansion joint filler as directed by the Engineer. . Clean and leave all existing steel reinforcement encountered in place. Damaged steel reinforcement will be repaired/replaced as directed by the Engineer at no additional cost to the Department.

Dispose of all removed material entirely away from the job site. This work is incidental to the contract unit price for "Expansion Joint Replacement" or "Armored Edge for Concrete".

B. Place New Concrete and Armored Edges. After all specified existing materials have been removed; place new armored edges to match the grade of the proposed overlay or to match the original grade (See attached detail drawings). Place the new Class "M" concrete to the scarified grade and finish to receive the new overlay or place the new Class "M" concrete to the original grade and finish with broom strokes drawn transversely from curb to curb.

All new structural steel shall be cleaned and painted in accordance with requirements of Section 607.03.23, except that surfaces to come in contact with concrete are not to be painted.

Blast clean all areas of existing concrete and structural steel to come in contact with new concrete until free of all laitance and deleterious substances immediately prior to the placement of the Class "M" Concrete. The surface areas of existing concrete to come in contact with the new Class "M" Concrete are to be coated with an epoxy bond coat immediately prior to placing new concrete in accordance with Section 511. The interfaces of the new and old concrete shall be as nearly vertical and horizontal as possible.

C. Additional Steel Reinforcement. Furnish for replacement, as directed by the Engineer, 200 linear feet per joint, ae, or joint& ae combination of #4 steel reinforcing bars in 20' lengths. Place these bars in areas deemed by the Engineer to require additional reinforcement. Field cutting and bending is permitted. Do not place any additional steel reinforcement above the height of the top row of Nelson Studs on the armored edges. Ensure that all exposed steel reinforcement is tied in accordance with Section 602.03.04 prior to pouring the new Class "M" concrete. Deliver unused bars to the Local County Maintenance Barn. Payment will be made in accordance with Section 602.

D. Stage Construction. Installation of concrete and armored edges in two (or more if specified) stages is necessary. Join the armored edges at or near the centerline of the roadway or lane line, field weld and grind smooth.

E. Preformed Neoprene Joint Seal. Place the preformed joint seal in one continuous, unbroken length. Place neoprene strip seals as recommended by the manufacturer and in accordance with Section 609.03.04 (E), except that shop drawings will not be required.

F. Shop Plans. Shop plans will <u>not</u> be required. The Contractor is responsible for obtaining field measurements and supplying properly sized materials to complete the work.

V. MEASUREMENT.

A. Expansion Joint Replacement - 4". The Department will measure the quantity in linear feet from gutterline to gutterline along the centerline of the joint.

B. Armored Edge for Concrete. The Department will measure the quantity in linear feet from gutterline to gutterline along the face of the bridge end.

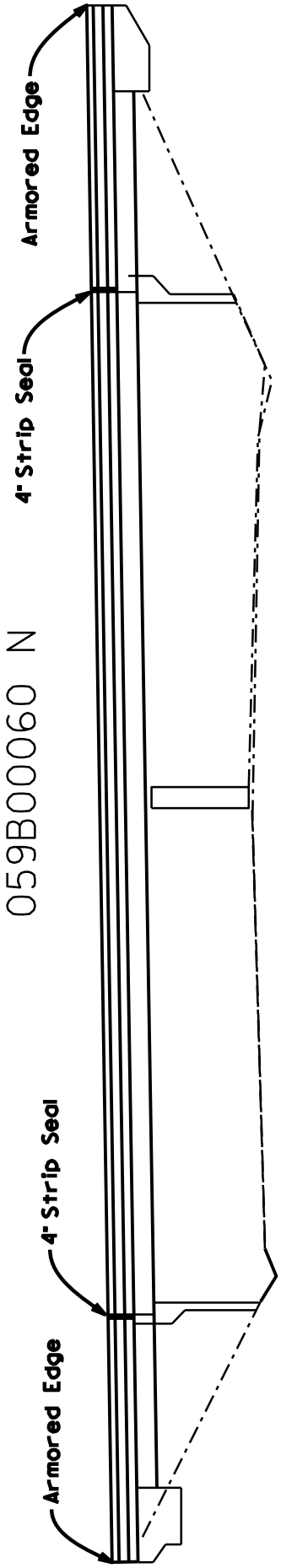
C. Steel Reinforcement. See Section 602.

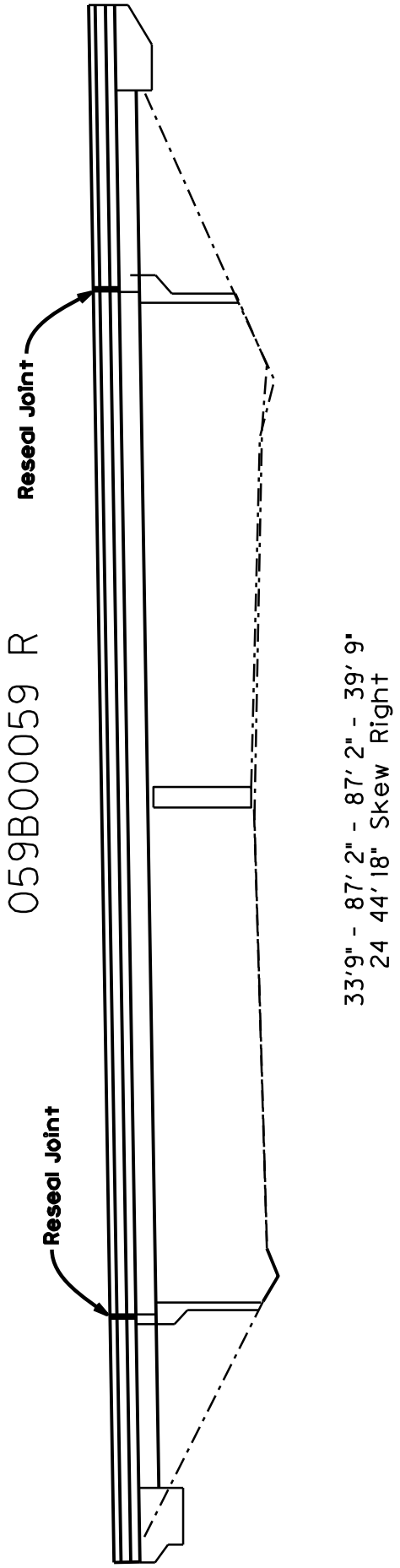
VI. PAYMENT.

A. Expansion Joint Replacement - 4". Payment at the contract unit price per linear foot is full compensation for removing specified existing materials, furnishing and installing the new armored edges, concrete, neoprene joint seal, and all incidental items necessary to complete the work (except the overlay material) within the specified pay limits as specified by this note and as shown on the attached detail drawings.

B. Armored Edge for Concrete. Payment at the contract unit price per linear foot is full compensation for removing specified existing materials, furnishing and installing the new armored edges, concrete and all incidental items necessary to complete the work (except the overlay material) within the specified pay limits as specified by this note and as shown on the attached detail drawings.

C. Steel Reinforcement. See Section 602.

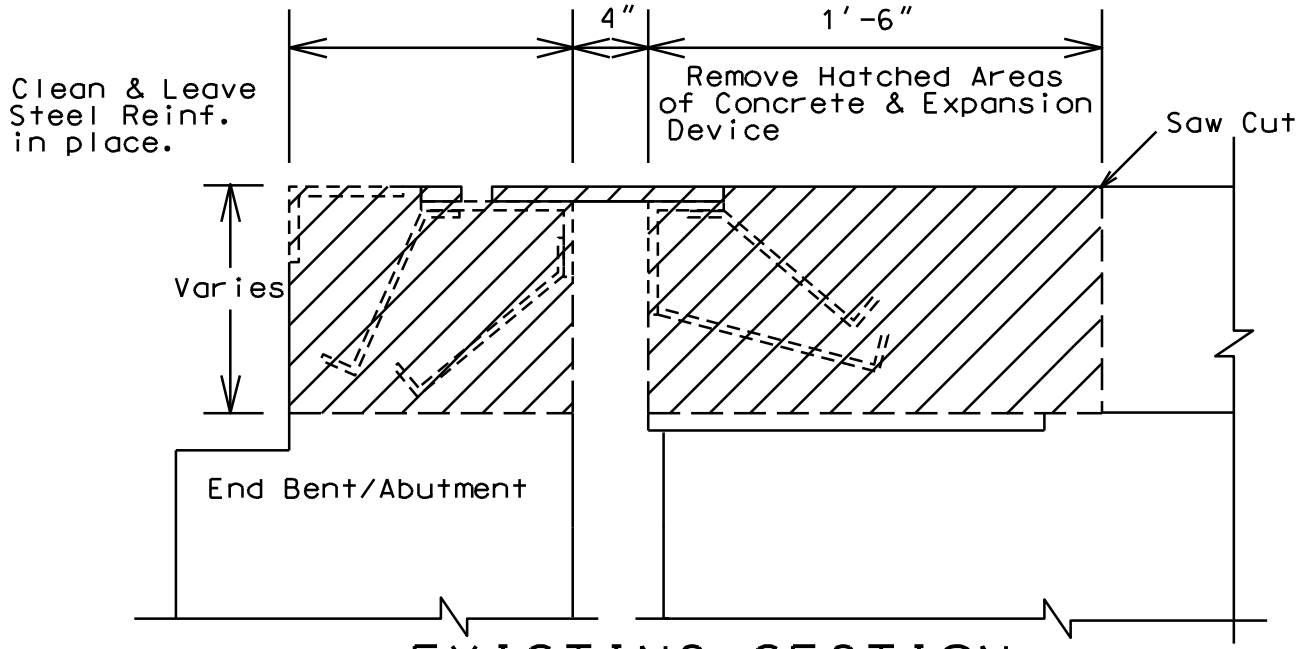

Armored Edge
4" Strip Seal
059B00060 N
4" Strip Seal
Armored Edge
35' - 89 7" - 89' 7" - 32'
27 58" Skew Right


Reseal Joint
059B00059 R
Reseal Joint
33'9" - 87' 2" - 87' 2" - 39' 9"
24 44'18" Skew Right

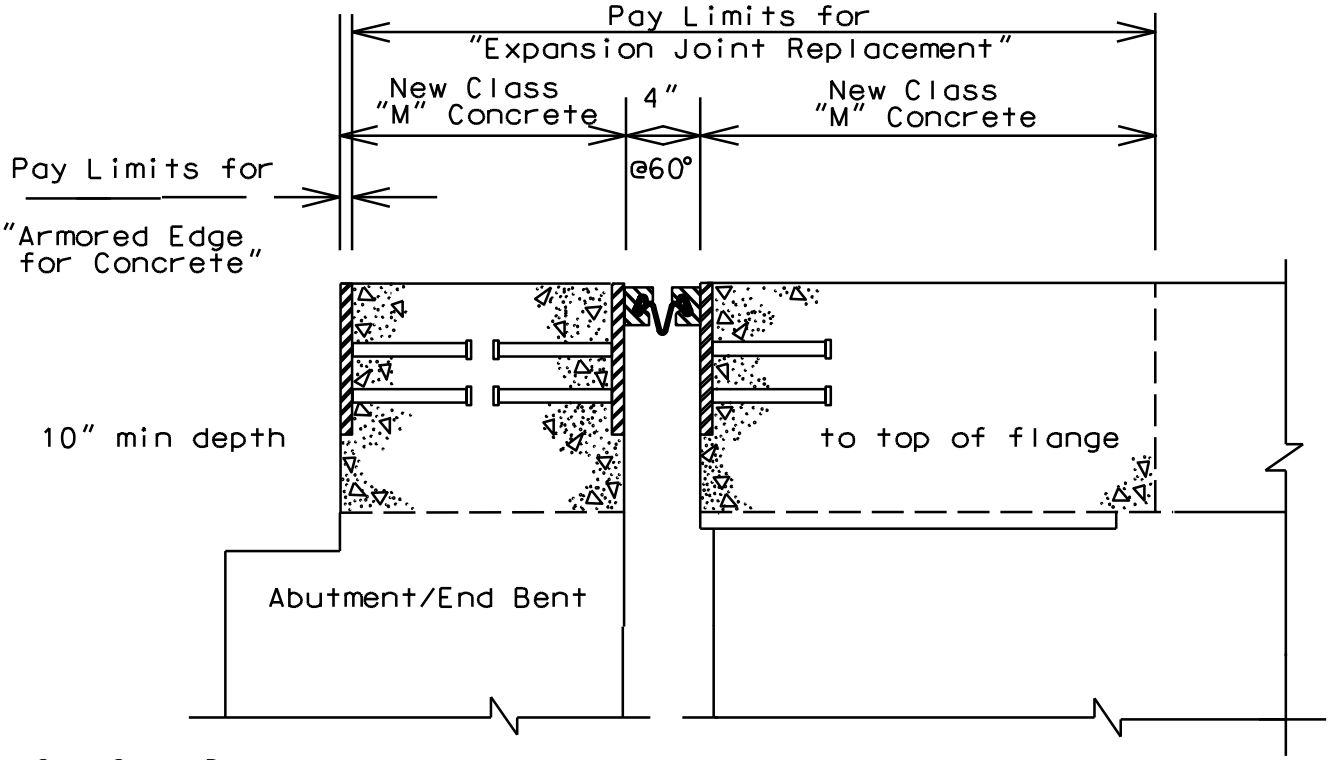
059B0054 L&R

Not to Scale

EXPANSION DAM DETAIL



EXISTING SECTION



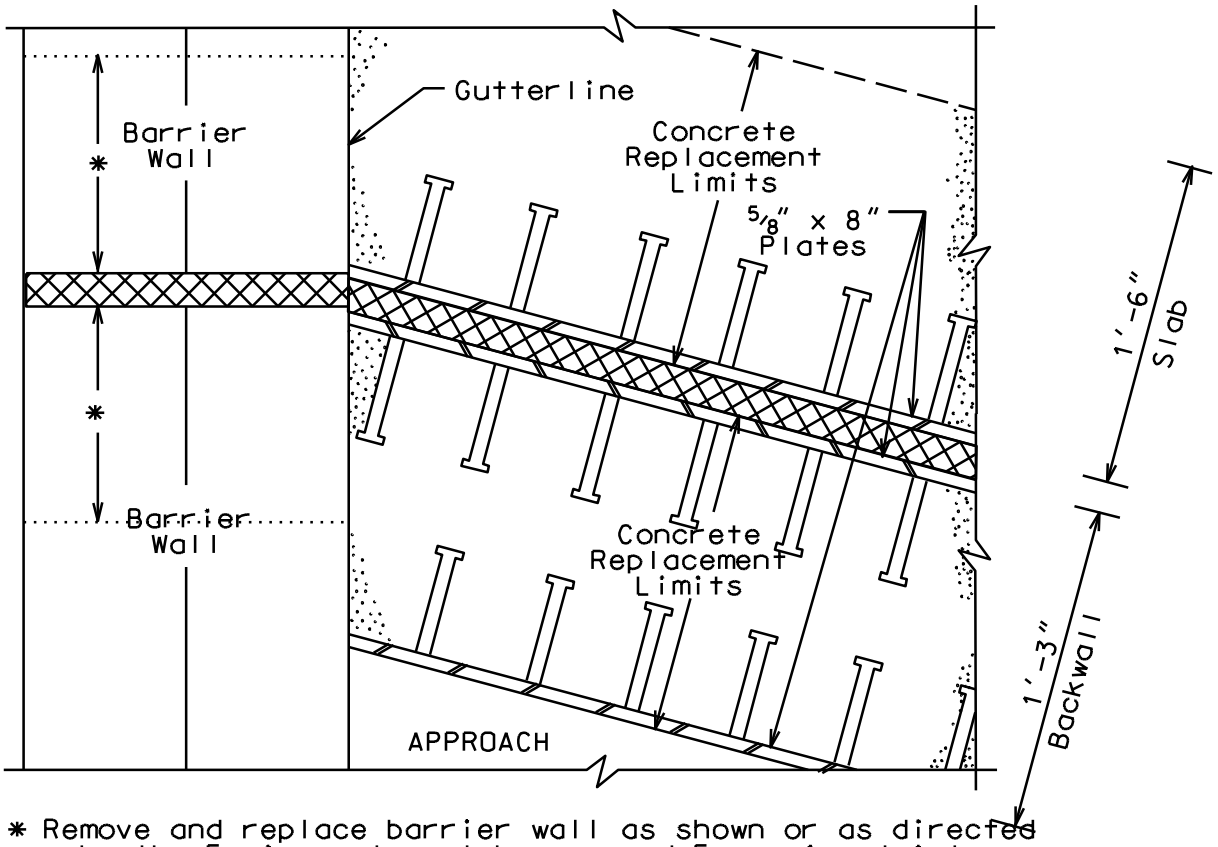
See Std. Drwg. BJE-001-10

PROPOSED SECTION

059B00054 L&R

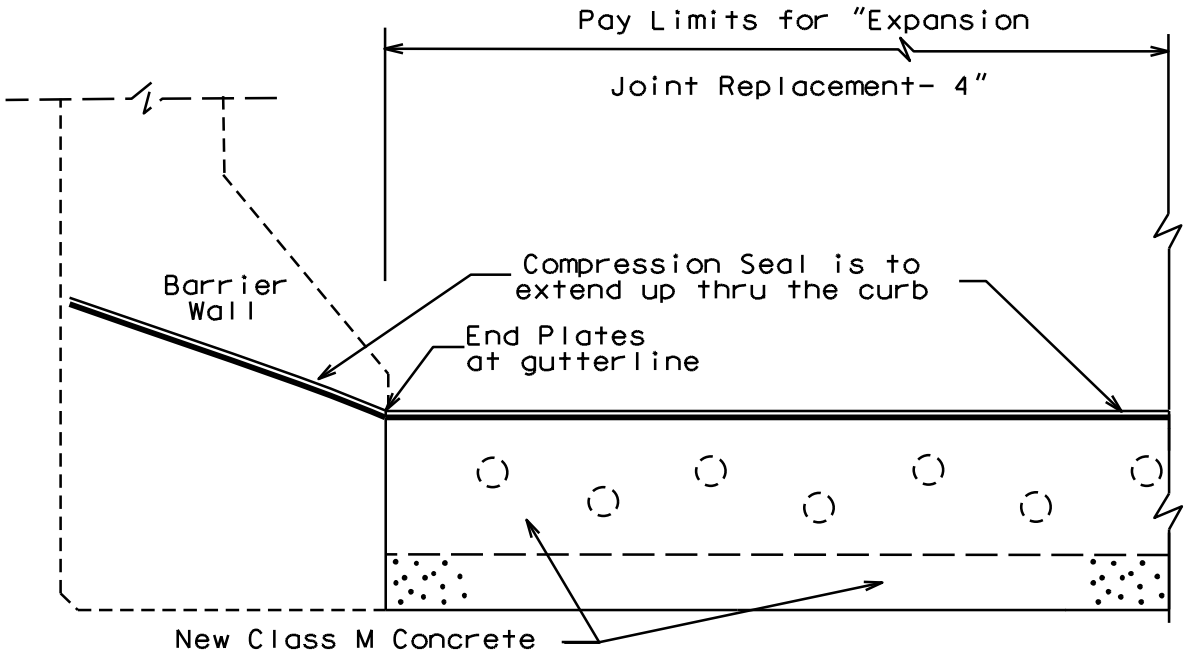
CURB SECTION

Not to Scale



* Remove and replace barrier wall as shown or as directed by the Engineer to match proposed Expansion Joint (Incidental to "Expansion Joint Replacement").

PLAN VIEW @ CURB

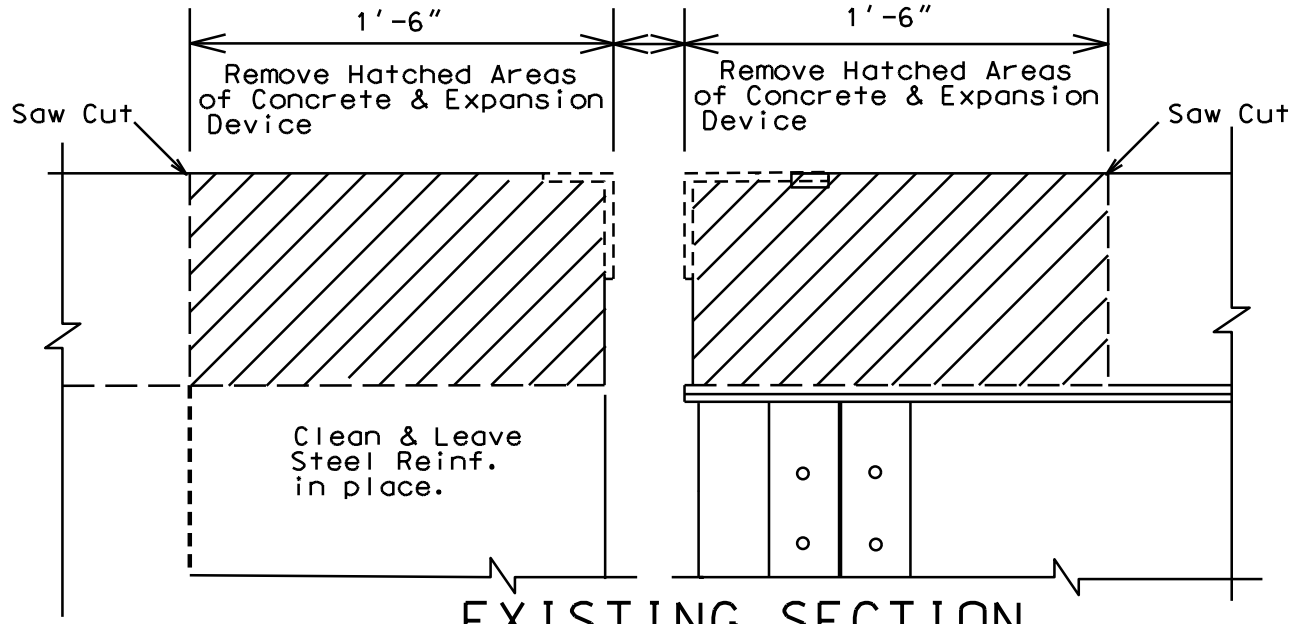


PROPOSED SECTION @ CURB

059 B00059L

Not to Scale

EXPANSION DAM DETAIL



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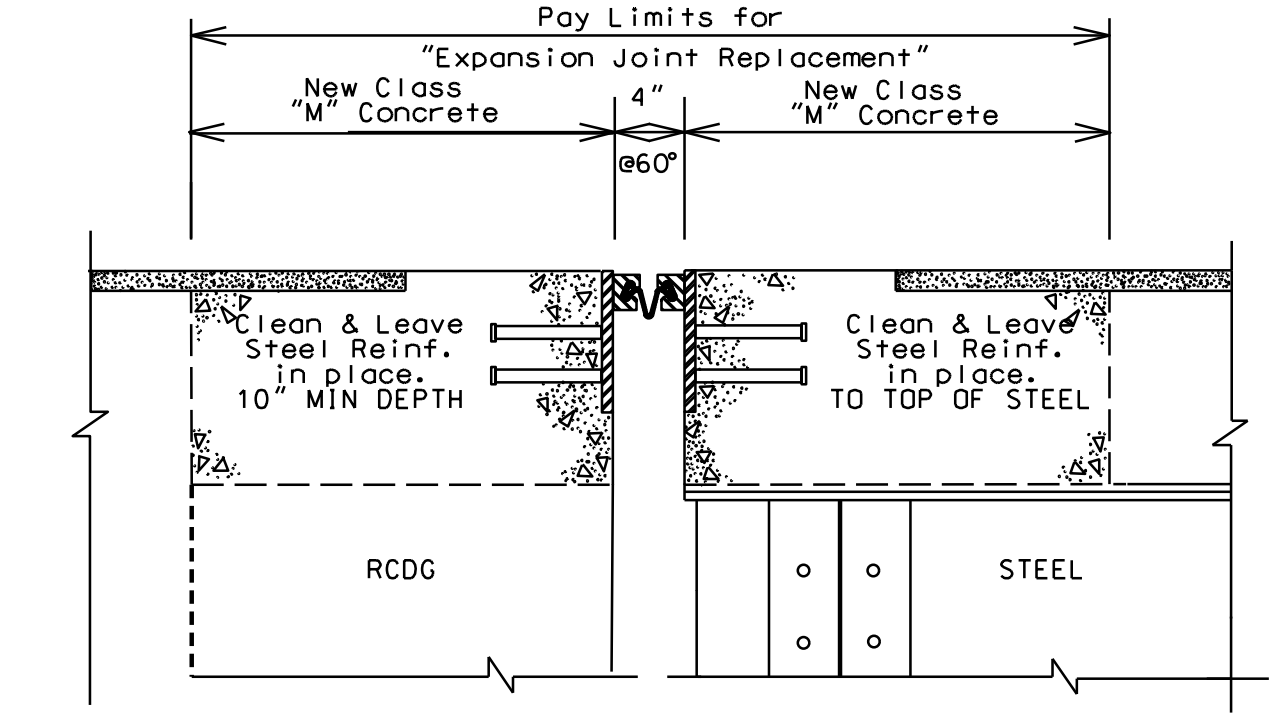


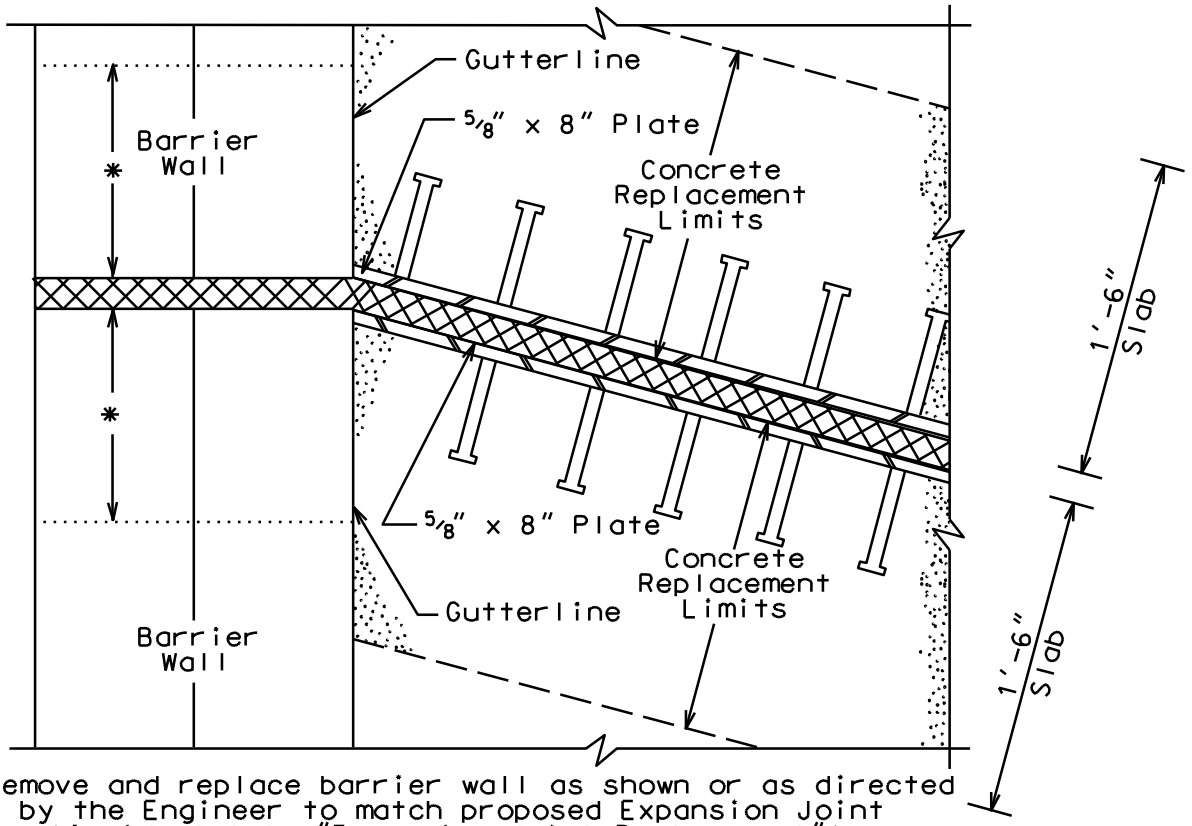
See Std. Drwg. BJE-001-10

PROPOSED SECTION

059 B00059L

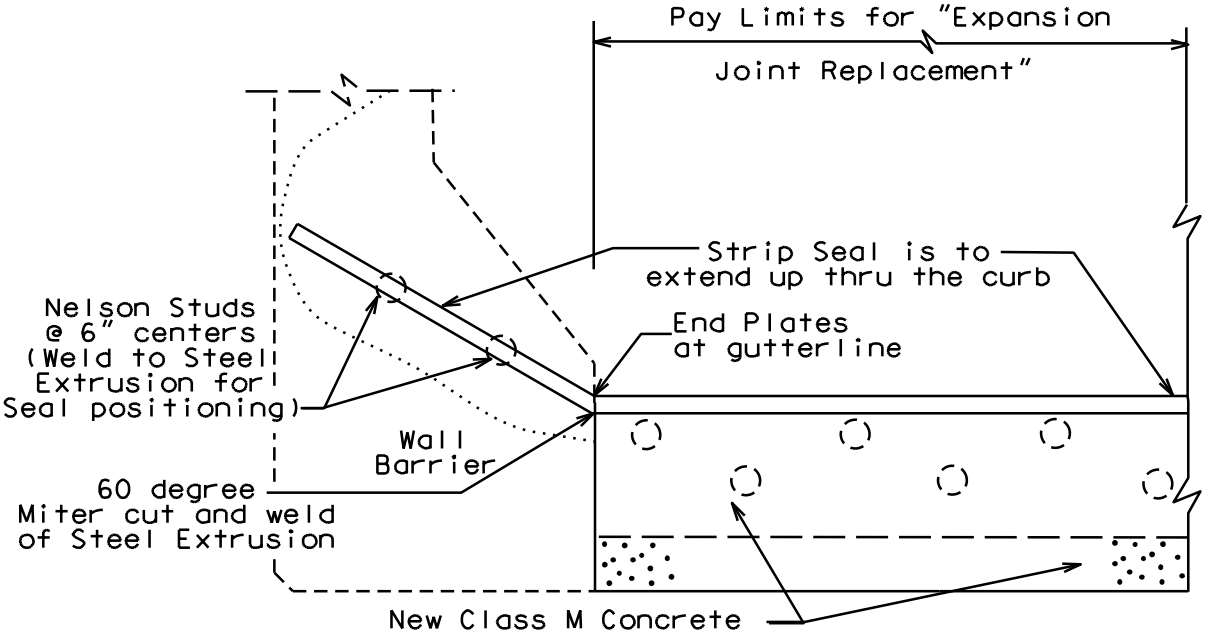
Not to Scale

CURB SECTION



* Remove and replace barrier wall as shown or as directed by the Engineer to match proposed Expansion Joint (Incidental to "Expansion Joint Replacement").

PLAN VIEW @ CURB

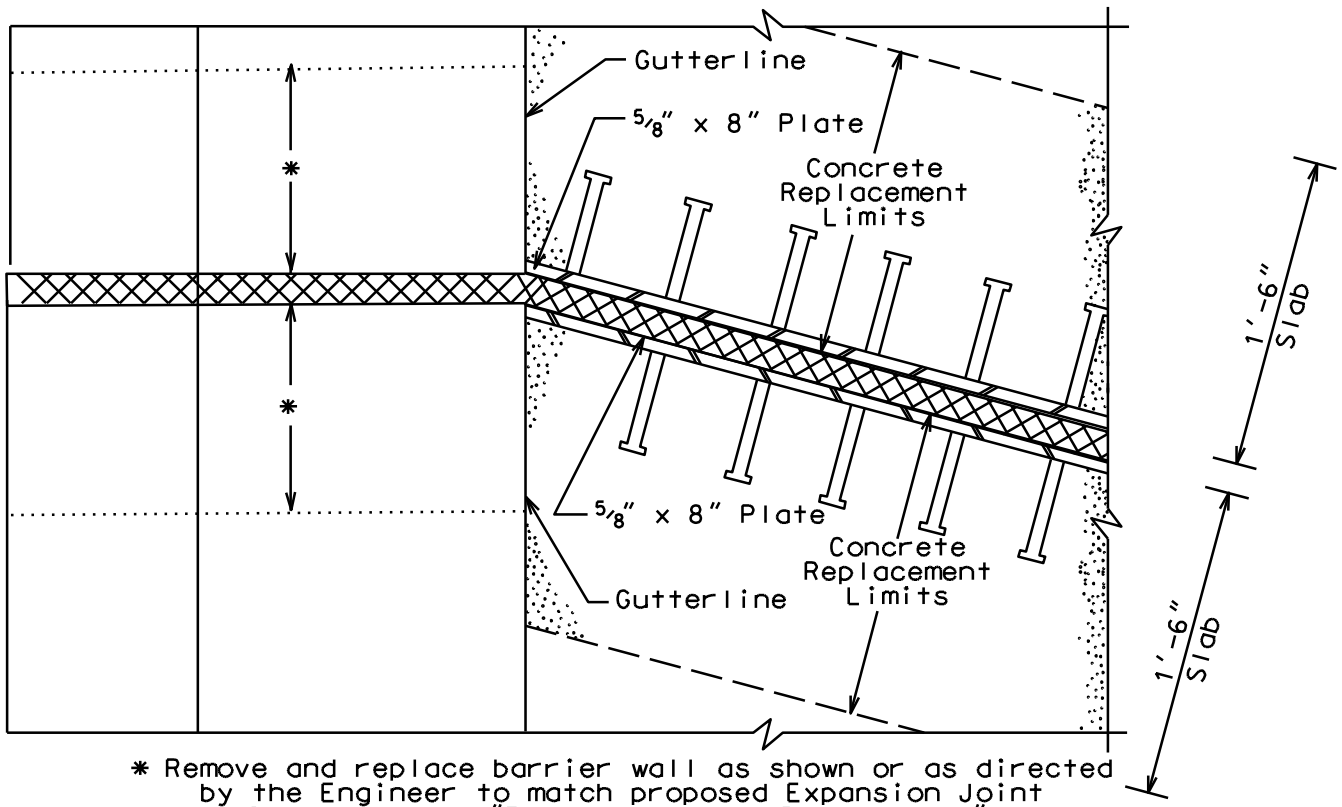


PROPOSED SECTION @ CURB

059B00060

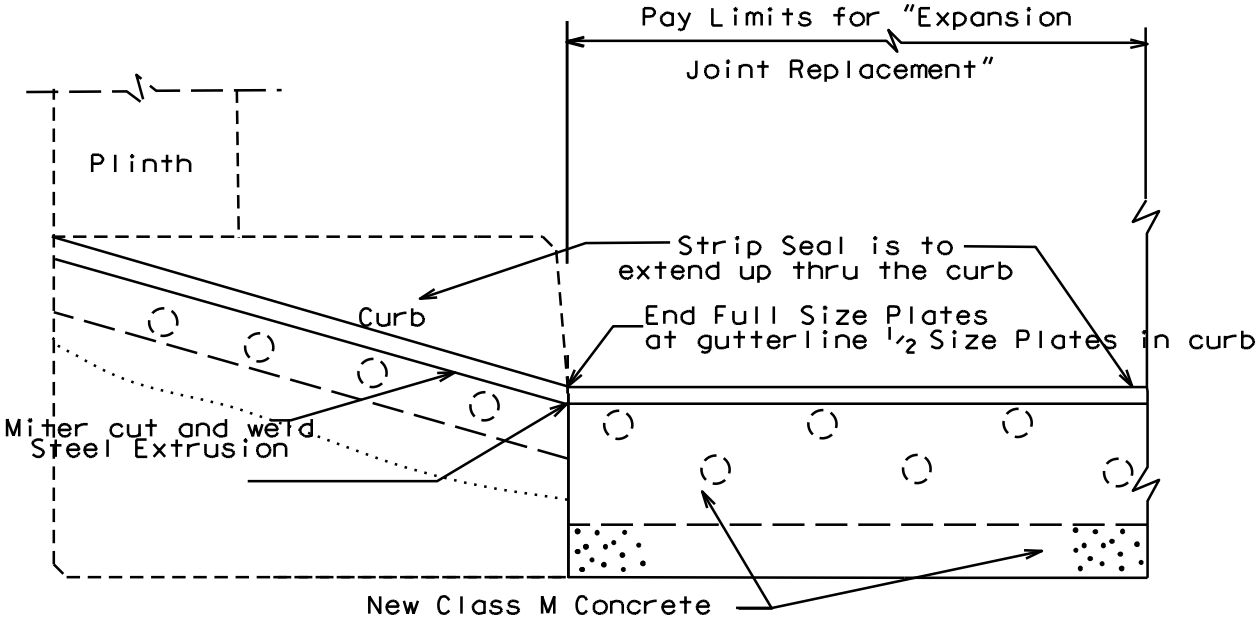
Not to Scale

CURB SECTION



* Remove and replace barrier wall as shown or as directed by the Engineer to match proposed Expansion Joint (Incidental to "Expansion Joint Replacement").

PLAN VIEW @ CURB

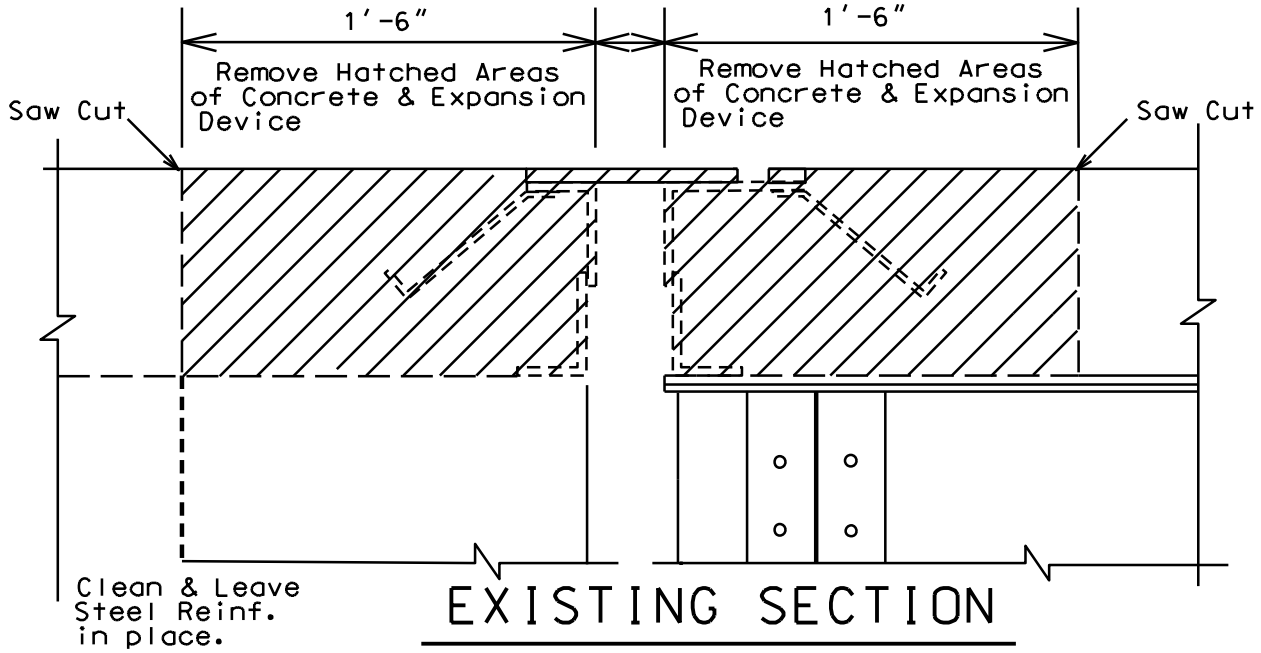


PROPOSED SECTION @ CURB

059 B00060N

Not to Scale

EXPANSION DAM DETAIL



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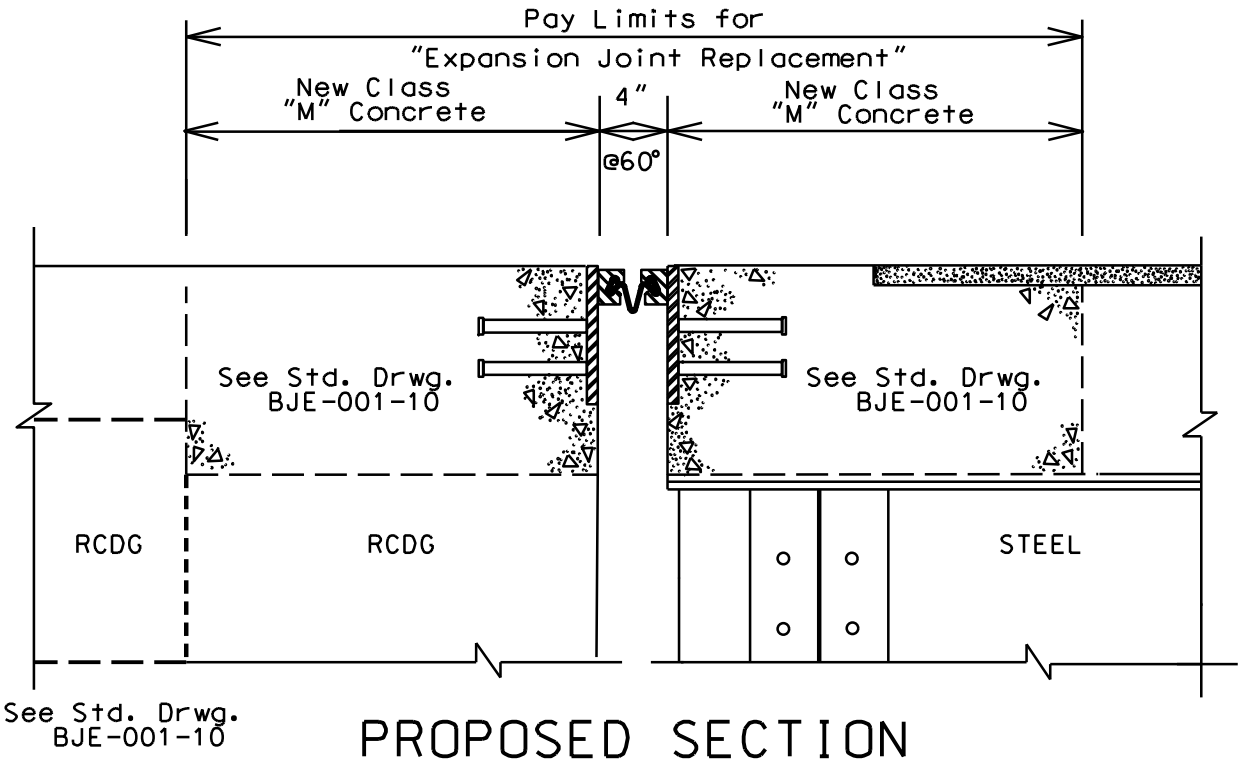
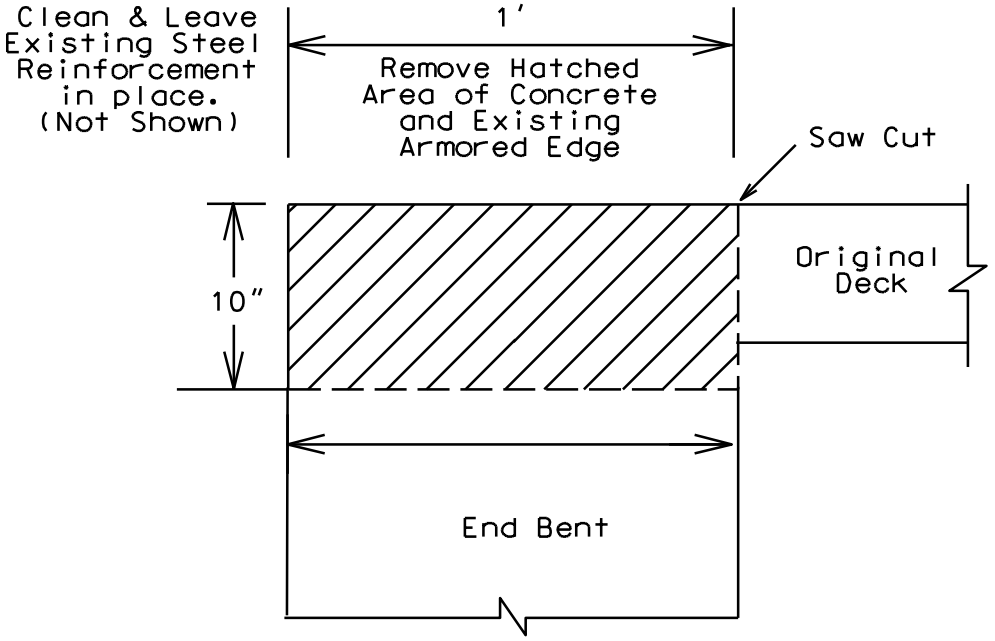


PROPOSED SECTION

059-B00060N & B00059L

Not to Scale

ARMORED EDGE DETAIL



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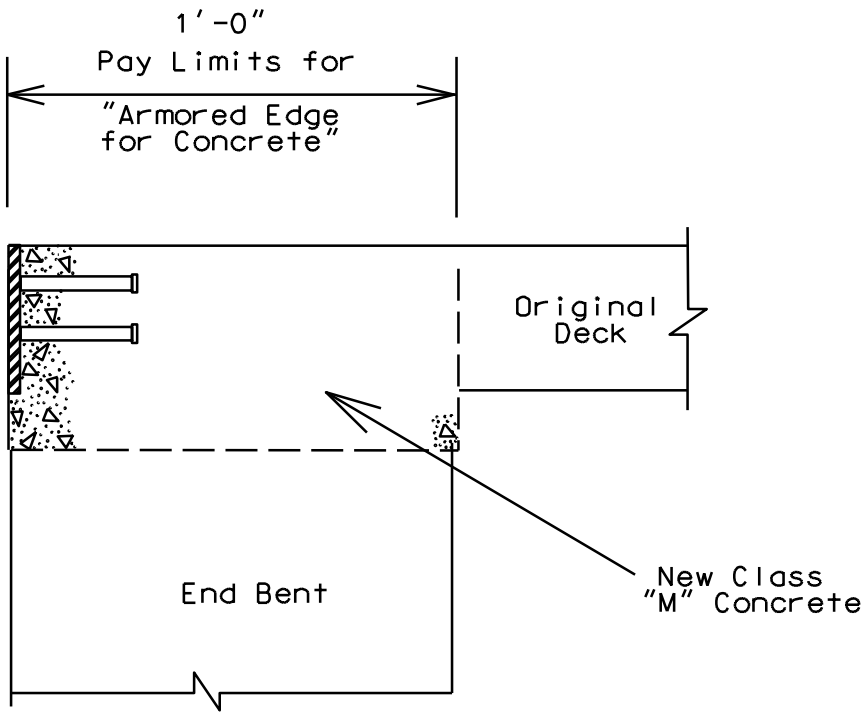


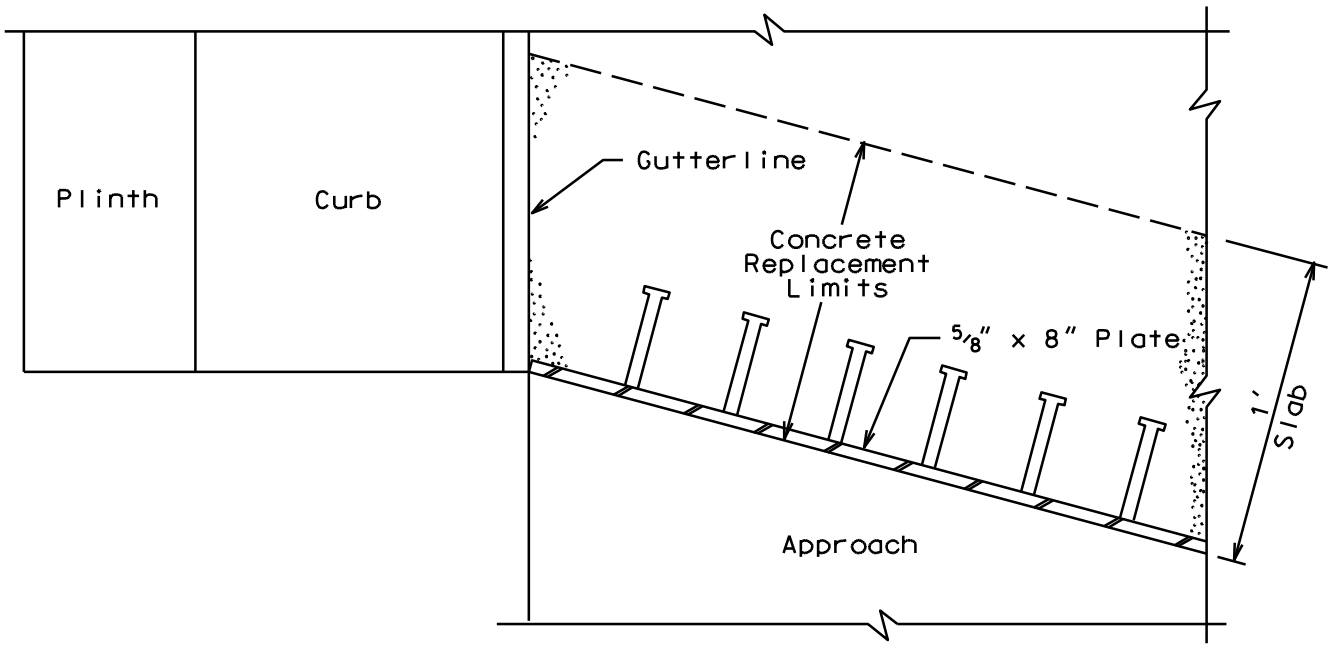
See Std. Drwg. BJE-001 Current Edition

PROPOSED SECTION

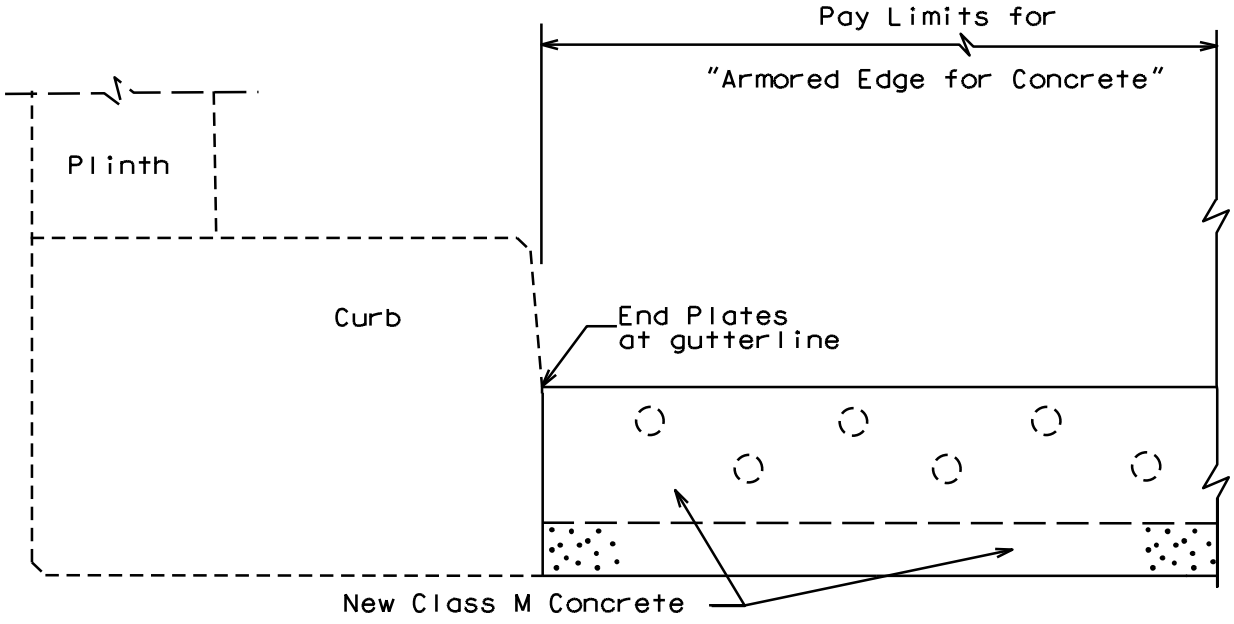
059-B00060N & B00059L

Not to Scale

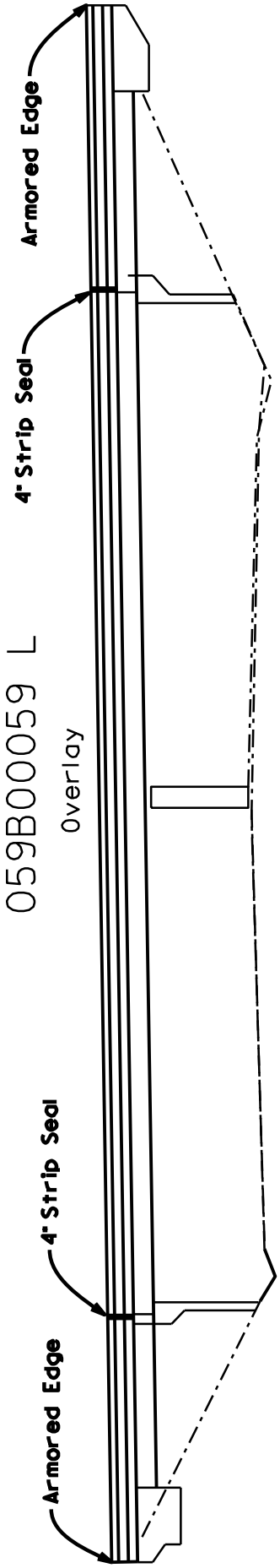
CURB SECTION



PLAN VIEW @ CURB



PROPOSED SECTION @ CURB


Armored Edge
4" Strip Seal
059B00059 L
Overlay
4" Strip Seal
Armored Edge
33'9" - 87'2" - 87'2"- 33' 9"
24 44' 18" Skew Right

SPECIAL PROVISION FOR WASTE AND BORROW SITES

Obtain U.S. Army Corps of Engineer's approval before utilizing a waste or borrow site that involves "Waters of the United States". The Corps of Engineers defines "Waters of the United States" as perennial or intermittent streams, ponds or wetlands. The Corps of Engineers also considers ephemeral streams, typically dry except during rainfall but having a defined drainage channel, to be jurisdictional waters. Direct questions concerning any potential impacts to "Waters of the United States" to the attention of the appropriate District Office for the Corps of Engineers for a determination prior to disturbance. Be responsible for any fees associated with obtaining approval for waste and borrow sites from the U.S. Army Corps of Engineer or other appropriate regulatory agencies.

1-296 Waste & Borrow Sites
01/02/2012

SPECIAL NOTE FOR ADVANCED REGIONAL TRAFFIC INTERACTIVE MANAGEMENT INFORMATION SYSTEM (ARTIMIS)

Be advised, buried fiber optic cable has been installed within the construction limits of this project as part of the Advanced Regional Traffic Interactive Management Information System (ARTIMIS). Notify the Engineer in writing, a minimum of (2) two weeks, prior to beginning any work.

The Engineer will contact and maintain liaison with the District Traffic Engineer and coordinate any necessary work. Do not perform any excavation or underground activity until the Department locates and marks the cable.

1-3190 ARTIMIS
01/02/2012

SPECIAL NOTE FOR COORDINATION WITH OTHER CONTRACTS AND PROJECT START

The Contractor is advised that other projects may be in progress within or in the near vicinity of this project. The traffic control of those projects may affect this project and the traffic control of this project may affect those projects. The Contractor will coordinate the work on this project with the work of the other contractors.

It is anticipated that traffic control will be in place for another project at the time the Notice to Begin is issued for this project. Therefore, contrary to section 108.04, unless otherwise approved by the Engineer, **work on this project shall not begin prior to June 1, 2013.**

After June 1, 2013, in case of conflicting traffic control with another project, the Engineer will determine which project has priority.

SPECIAL NOTE FOR TYPICAL SECTION DIMENSIONS

Consider the dimensions shown on the typical sections for pavement and shoulder widths and thickness' to be nominal or typical dimensions. The Engineer may direct or approve varying the actual dimensions to be constructed to fit existing conditions. Do not widen existing pavement or shoulders unless specified elsewhere in this proposal or directed by the engineer.

1-3725 Typical Section Dimensions
01/02/2012

TRAFFIC CONTROL PLAN

THIS PROJECT IS A FULLY CONTROLLED ACCESS HIGHWAY

TRAFFIC CONTROL GENERAL

Except as provided herein, traffic shall be maintained in accordance with the 2012 Standard Specifications and the Standard Drawings, current editions. Except for the roadway and traffic control bid items listed, all items of work necessary to maintain and control traffic will be paid at the lump sum bid price to "Maintain and Control Traffic". All lane closures used on the project will be in compliance with the appropriate Standard Drawings.

Contrary to Section 106.01, traffic control devices used on this project may be new, or used in like new condition, at the beginning of the work and maintained in like new condition until completion of the work. Traffic Control Devices will conform to current MUTCD.

Reduce the speed limit in work areas to 10 miles per hour below the current posted speed limit and establish double fines for work zone speeding violations. The extent of these work areas within the project limits will be restricted to the proximity of actual work areas as determined by the Engineer. Notify the Engineer a minimum of 12 hours prior to using the double fine signs. At the beginning of the work zone, the “WARNING FINE DOUBLED IN WORK ZONE” signs will be dual mounted. At the end of the work zone, the “END DOUBLE FINE” signs will be dual mounted as well. Remove or cover the signs when the highway work zone does not have workers present for more than a two-hour period of time. Payment for the signs will be at the unit bid price for signs erected. Any relocation or covering of the signs will be incidental to Maintain and Control Traffic.

SHOULDER PREPARATION AND RESTORATION

Prior to placing any lane closures that require shifting traffic onto existing shoulders, patch the shoulder as directed by the Engineer. Removal of failed materials and additional patching shall be performed by the Contractor as directed by the Engineer during the time the shoulder is used as a travel lane. Shoulder preparation and restoration will be incidental to other items of work. Any removal of patching material shall be incidental to other items of work.

LANE CLOSURES AND RAMP CLOSURES

During construction of this project, the Contractor may close lanes and ramps according to the traffic phasing notes. Installation of all traffic control devices required for lane closures shall be performed at night during periods of low volume traffic. The lengths of lane closures shall be only that needed for actual operations. Lane closures shall be left in place only long enough to complete work. Only one lane closure in each direction of travel will be allowed at the same time. Contrary

to Section 112, lane closures will **NOT** be measured for payment but will be incidental to Maintain and Control Traffic. During the days and hours when a lane closure or ramp closure is allowed, maintain traffic as specified in the phasing notes. The Contractor must notify the Engineer within the following time frames of pending changes in their work schedule which will affect traffic patterns:

At least fourteen (14) days prior to closing a ramp
At least seven (7) days prior to a lane closure

If a decision is made not to close a ramp after having given notice of a closure, then the Engineer must be notified at least three (3) days prior to the change. Changeable Message Signs will be posted as directed by the Engineer notifying the public of times and dates of the upcoming ramp closures.

Liquidated damages will be assessed when lane closures or ramp closures are in place at times other than those times provide by the traffic phasing notes or if the project is not completed by the fixed completion date of September 30, 2013. See 'Special Note For Fixed Completion Date and Liquidated Damages'.

SIGNS

Traffic control signs in addition to those necessary to normal lane closure signing detailed on the Standard Drawings may be required by the Engineer. Additional signs needed for lane closures may include, but are not limited to, dual mounted TRUCKS USE LEFT/RIGHT LANE, LEFT/RIGHT LANE CLOSED 1 MILE, LEFT/RIGHT LANE CLOSED 2 MILES, LEFT/RIGHT LANE CLOSED 3 MILES, SLOWED/STOPPED TRAFFIC AHEAD. Signage for reduced speed limits and double fine work zones will be furnished, relocated, and maintained by the Contractor.

Contrary to Section 112, only long term signs (signs intended to be continuously in place for more than 3 days) will be measured for payment; short term signs (signs intended to be left in place for 3 days or less) will not be measured for payment but will be incidental to Maintain and Control Traffic.

Individual signs will be measured only once for payment, regardless of how many times they are set, reset, removed, and relocated during the duration of the project. Replacements for damaged signs or signs directed to be replaced by the Engineer due to poor legibility or reflectivity will not be measured for payment.

A quantity of signs has been included for detours, lane shifts, "Roadwork Ahead" signs on entrance ramps, and extra Double Fine signs and Speed Limit signs between interchanges to be paid only once no matter how many times they are moved or relocated.

BARRICADES

Barrels shall be used at all lane closure tapers. Barricades used in lieu of barrels for channelization or delineation will be incidental to Maintain and Control Traffic according to Section 112.04.01. Contrary to Section 112.04.04, barricades used to protect pavement removal areas and for ramp closures will be incidental to Maintain and Control Traffic.

CHANGEABLE MESSAGE SIGNS

Provide changeable message signs in advance of and within the project at locations determined by the Engineer. Place changeable message signs one mile in advance of the anticipated queue at each lane closure. As the actual queue lengthens and/or shortens, relocate or provide additional changeable message signs so that traffic has warning of slowed or stopped traffic at least one mile but not more than two miles before reaching the end of the actual queue. The Engineer may vary the designated locations as the work progresses. The Engineer will determine the messages to be displayed. In the event of damage or mechanical/electrical failure, repair or replace the Changeable Message Sign within 24 hours. The Department will measure for payment the maximum number of Changeable Message Signs in concurrent use at the same time on a single day on all sections of the contract. The Department will measure individual Changeable Message Signs only once for payment, regardless of how many times they are set, reset, removed, and relocated during the duration of the project. The Department will not measure replacements for damaged Changeable Message Signs or for signs the Engineer directs be replaced due to poor condition or readability.

ARROW PANELS

Use arrow panels as shown on the Standard Drawings or as directed by the Engineer. The Department will measure for payment the maximum number of arrow panels in concurrent use at the same time on a single day on all sections of the contract. The Department will measure for payment the maximum number of Changeable Message Signs in concurrent use at the same time on a single day on all sections of the contract. The Department will measure individual Arrow Panels only once for payment, regardless of how many times they are set, reset, removed, and relocated during the duration of the project. The Department will not measure replacements for damaged Arrow Panels or for panels signs the Engineer directs be replaced due to poor condition or readability for payment.

TRAFFIC COORDINATOR

Designate an employee to be traffic coordinator. The designated Traffic Coordinator must be certified by the American Traffic Safety Services Association (ATSAA). The Traffic Coordinator shall provide for inspection of the project maintenance of traffic once every two hours during the Contractor's operations and at any time a lane closure is in place. The Traffic Coordinator shall report all incidents throughout the work zone to the Engineer on the project. The Contractor shall furnish the name and telephone number where the Traffic Coordinator can be contacted at all times.

During any period when a lane closure is in place, the Traffic Coordinator will arrange for personnel to be present on the project at all times to inspect the traffic control, maintain the signing and devices, and relocate Portable Changeable Message Boards as queue lengths change. The personnel will have access on the project to a radio or telephone to be used in case of emergencies or accidents.

PAVEMENT MARKINGS & RAISED PAVEMENT MARKERS

Remove or cover the lenses of raised pavement markers that do not conform to the traffic control scheme in use, or as directed by the Engineer. Replace or uncover lenses before reopening a closed lane to traffic. No direct payment will be made for removing and replacing or covering and uncovering the lenses, but shall be incidental to "Maintain and Control Traffic."

Permanent and Temporary Striping shall be in accordance with Section 112, except that:

(1) Temporary Striping shall be 6" painted or removable tape
(2) If the contractor's operations or phasing requires temporary markings which must be subsequently removed from the ultimate pavement, an approved "Removable Lane Tape" shall be used; (however removable tape will not be measured for payment but will be incidental to maintain and control traffic); and
(3) Edge lines will be required for temporary striping; and
(4) Existing, temporary, or permanent striping shall be in place before a lane is opened to traffic; and
(5) Place Permanent Striping on bridge decks and pavement within the project limits;

TEMPORARY PAVEMENT STRIPING

Skip lines through the length of the tapers for lane closures and other striping as directed by the Engineer shall be temporarily covered with 8” black removable tape. Permanent removal of all other pavement striping for traffic control shall be considered incidental to Maintain and Control Traffic in accordance with Section 112.04.15. Temporary pavement striping shall be paid only once per course in accordance with Section 112.04.08. The Contractor shall replace any temporary striping that becomes damaged or fails to adhere to the pavement before dark on the day of notification.

TEMPORARY TRAFFIC CONTROL UNDER PROJECT BRIDGE.

Traffic control on existing roadways located under the project bridge shall be provided when necessary in order to insure the safety of the traveling public. Whenever the danger of falling debris exists, set up temporary lane closures in accordance with Standard Drawing TTC-115, TTC 105, and TTC 110 signing as approved by the Engineer to temporarily stop traffic for a maximum of 10 minutes before allowing traffic to clear. Traffic control on these roadways shall be maintained only while required for construction activities and shall be removed as soon as the danger of falling

debris has been eliminated. These temporary lane closures and traffic control shall be considered incidental to the pay item "Maintain and Control Traffic".

PAVEMENT EDGE DROP-OFFS

Pavement edges that traffic is not expected to cross, except accidentally, shall be treated as follows:

Less than 2 inches – No protection required. Warning signs should be placed in advance and throughout the drop-off area.

2 inches to 4 inches – Place plastic drums, vertical panels or barricades every 100 feet on tangent sections for speeds of 45 MPH or greater. For tangent sections with speeds less than 45 MPH and for curves, plastic drums, vertical panels or barricades should be placed every 50 feet. Spacing for tapers should be in accordance with the Manual on Uniform Traffic Control Devices (MUTCD), current edition.

Greater than 4 inches – Positive separation or wedge with 3:1 or flatter slope is required. If there is 8 feet or more distance between the edge of the lane that traffic is occupying and the drop-off, plastic drums, vertical panels or barricades can be used. In places where concrete barriers are used, special reflective devices should be installed for overnight installations. Provide one side mounted barrier wall delineator per each section of barrier. See Standard Drawing RBM-020 for types. No direct payment allowed for delineators.

TRUCK MOUNTED ATTENUATORS

Furnish and install MUTCD approved Truck Mounted Attenuators in advance of work areas not protected by temporary concrete barrier wall, when workers are present less than 12 feet from traffic. If there is less than 500 feet between work sites, only a single TMA will be required at a location directed by the Engineer. Locate the TMAs at the individual work sites and move them as the work zone moves within the project limits. All details of the TMA installations will be approved by the Engineer. Truck Mounted Attenuators will not be measured for payment, but are incidental to Maintain and Control Traffic. The Department **WILL NOT** take possession of the TMAs upon completion of the work.

COORDINATION OF WORK

The Contractor is advised that other projects may be in progress within or in the near vicinity of this project. The traffic control of those projects may affect this project and the traffic control of this project may affect those projects. The Contractor will coordinate the work on this project with the work of the other contractors. In case of conflicting traffic control, the Engineer will determine which project has priority (See Special Note for Project Start).

PROJECT PHASING & CONSTRUCTION PROCEDURES

No lane closures or ramp closures will be allowed during the following holiday periods:

Thursday, July 4, 2013 – Sunday, July 7, 2013	Independence Day Weekend
Friday, August 30, 2013 – Monday, September 2, 2013	Labor Day Weekend
All Kentucky Speedway Events	To Be Determined

Except as noted in the project phasing, all work must be performed in sequence in accordance with the following phases unless otherwise approved by the Engineer.

ROADWAY WORK

PHASE I – I-275 - INSIDE SHOULDER REPLACEMENT

A. I-275 EASTBOUND

After giving proper notification to the engineer and the public, close the inside left lane in accordance with the Kentucky Standard Specifications (Edition of 2012), the standard drawings and the MUTCD in the area of I-275 eastbound designated for shoulder removal and replacement. Perform those items of work necessary to remove and replace the shoulder in accordance with the project notes and the Kentucky Standard Specifications (Edition of 2012). The contractor is permitted to close the left, inside lane for a period of ten (10) consecutive days beginning at 7:00 PM on a Friday through 6:00 AM on a Monday (two weekends and five week days) with the following exception. The shoulder area from 500 feet west of the railroad bridge to the US 25 Bridge must be performed over the two weekend periods (Friday evening to Monday morning). During the weekday period, the shoulder in this area must be completely functional and no lane closures will be permitted.

B. I-275 WESTBOUND

After giving proper notification to the engineer and the public, close the inside left lane in accordance with the Kentucky Standard Specifications (Edition of 2012), the standard drawings and the MUTCD in the area of I-275 westbound designated for shoulder removal and replacement. Perform those items of work necessary to remove and replace the shoulder in accordance with the project notes and the Kentucky Standard Specifications (Edition of 2012). The contractor is permitted to close the left, inside lane for a period of ten (10) consecutive days beginning at 7:00 PM on a Friday through 6:00 AM on a Monday (two weekends and five week days) to perform this work.

PHASE II – I-75 N RAMP TO I-275 – JPC REMOVAL AND REPLACEMENT

After giving proper notification to the Engineer and the public, and after proper detour signs have been installed, close the ramp from Donaldson Road (KY 236) to I-275 and the ramp from I-75 northbound to I-275 westbound in accordance with the drawings in the proposal, the Kentucky Standard Specifications (Edition of 2012), the standard drawings and the MUTCD. Close the right exit only lane on I-75 northbound to I-275 in accordance with the drawings in the proposal, maintaining one lane of traffic in the left lane on the ramp to I-275.Using a shifting taper, move traffic partially onto the far right shoulder in accordance with the drawings in the proposal. Maintain a minimum of 8 (eight) feet of separation between the traveled lane and the removal area. Perform those items of work necessary to remove and replace the JCP pavement in the left and center lanes of the designated area. This work and the traffic control necessary to accomplish the work must be performed over a one weekend period beginning at 8:00 PM on a Friday evening through 5:00 AM on the following Monday.

PHASE III – DIAMOND GRINDING

After giving proper notification to the Engineer and the public, close the ramps designated for diamond grinding in accordance with the notes in the proposal, the Kentucky Standard Specifications (Edition of 2012), the standard drawings and the MUTCD. Only one ramp may be closed at a time. Perform the necessary grinding and saw cut, clean and reseal all joints within the areas were diamond grinding was performed, and replace any striping disturbed by these operations or as directed by the Engineer. Perform all work in accordance with the notes in the proposal, the Kentucky Standard Specifications (Edition of 2012) and the standard drawings. Each ramp may be closed for up to three nights between the hours of 10:00 PM and 5:00 AM the following morning. Note: The ramp from I-75 northbound to I-275 westbound must be performed while the ramp is closed during Phase II.

PHASE IV – I-275 Eastbound and Westbound - SAW CUT, CLEAN AND RESEAL JOINTS; MISCELLANEOUS ITEMS

Perform those items of work necessary to saw cut, clean and reseal concrete pavement joints and perform all other items of work required in the contract in accordance with the notes in the proposal, the Kentucky Standard Specifications (Edition of 2012) and the standard drawings. Perform this work using lane closures in accordance with the Kentucky Standard Specifications (Edition of 2012), the standard drawings and the MUTCD. Traffic maybe restricted during periods of low volume traffic, Monday through Sunday, in accordance with the following schedule in order to perform this work:

One Lane EB	One Lane WB	Two Lanes EB	Two Lanes WB
8 PM to 6 AM	8 PM to 6 AM	10 PM to 6 AM	10 PM to 6 AM

All lanes must be fully operational at all other times.

Ramps with dual lanes requiring a single lane closure to perform items of work may be closed between the hours of 8:00 PM and 6:00 AM the following morning in accordance with the Kentucky Standard Specifications (Edition of 2012), the standard drawings and the MUTCD.

BRIDGE WORK

The following Project Phasing and Construction Procedures shall be followed in the performance of the items of bridge work and PCC pavement replacement at the US 25 overpass, unless otherwise approved by the engineer, must be performed after completion of Phase I Roadway Work.

059B00059L
JOINT REPLACEMENT OVERLAY

The Contractor shall have 20 calendar days to complete all work and remove traffic control from 059B00059L.

DOUBLE LANE CLOSURE STD DRG TTC 125-02 (TEMPOARY STRIPING NOT REQUIRED)

Temporary closure to one lane is permitted only for specific tasks such as moving traffic control, and only during the hours of 10:00 PM to 6:00 AM

Maintain, as a minimum one lanes of traffic at all times in accordance with STD drawing. The clear lane width required is:

Structure Phase I & III	Clear Lane Width
059-0275-B00059L	12’ – 0

PHASE I & II

LANE / SHOULDER CLOSURE WITH DOUBLE LANE SHIFT
SEE ATTACHED DETAIL DRAWINGS
TEMPOARY STRIPING REQUIRED

Maintain, as a minimum two lanes of traffic at all times in accordance with drawing.
The clear lane width required is:

Structure	Clear Lane Width
059-0275-B00059L	12’ – 0”

059B00054R
JOINT REPLACEMENT

The Contractor shall have 6 calendar days to complete all work and remove traffic control from 059B00054R.

DOUBLE LANE CLOSURE STD DRG TTC 125-02 (TEMPOARY STRIPING NOT REQUIRED)

Temporary closure to one lane is permitted only for specific tasks such as moving traffic control, and only during the hours of 10:00 PM to 6:00 AM.

Maintain, as a minimum one lanes of traffic at all times in accordance with STD drawing. The clear lane width required is:

Structure Phase I & III	Clear Lane Width
059-0275-B00059R	12’ – 0

PHASE I & II

LANE / SHOULDER CLOSURE WITH DOUBLE LANE SHIFT
SEE ATTACHED DETAIL DRAWINGS
TEMPOARY STRIPING REQUIRED

Maintain, as a minimum two lanes of traffic at all times in accordance with drawing. The clear lane width required is:

Structure	Clear Lane Width
059-0275-B00054R	12’ – 0”

059B00054L
JOINT REPLACEMENT

The Contractor shall have 6 calendar days to complete all work and remove traffic control from 059B00054L.

DOUBLE LANE CLOSURE STD DRG TTC 125-02 (TEMPOARY STRIPING NOT REQUIRED)

Temporary closure to one lane is permitted only for specific tasks such as moving traffic control, and only during the hours of 10:00 PM to 6:00 AM.

Maintain, as a minimum one lanes of traffic at all times in accordance with STD drawing. The clear lane width required is:

Structure Phase I & III	Clear Lane Width
059-0275-B00059L	12’ – 0

PHASE I & II

LANE / SHOULDER CLOSURE WITH DOUBLE LANE SHIFT
SEE ATTACHED DETAIL DRAWINGS
TEMPOARY STRIPING REQUIRED

Maintain, as a minimum two lanes of traffic at all times in accordance with drawing. The clear lane width required is:

Structure	Clear Lane Width
059-0275-B00054L	12’ – 0”

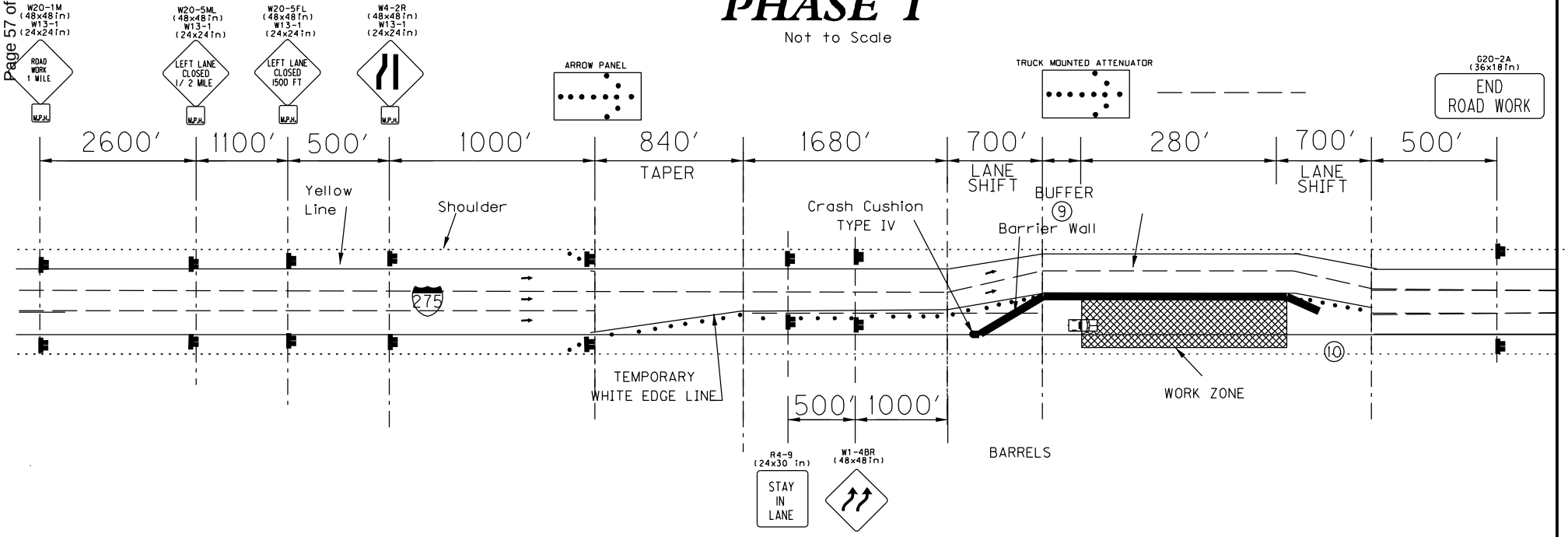
059B00060N
JOINT REPLACEMENT

The Contractor shall have 6 calendar days to complete all work and remove traffic control from 059B00060N.

After giving proper notification to the Engineer and the public, and after proper detour signs have been installed, close the ramp from I-275 westbound to US 25 southbound. Merge the traffic from KY 1303 (Turkeyfoot Road) into the left lane of the collector ramp to I-275 westbound in accordance with the notes in the proposal, the Kentucky Standard Specifications (Edition of 2012), the standard drawings and the MUTCD.

PHASE I

Not to Scale



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2.) SIGN SPACING MAY BE ADJUSTED TO FIT THE PHYSICAL CONDITIONS ENCOUNTERED.

3.) SIGNS LARGER THAN 10 SQUARE FEET SHALL BE MOUNTED ON TWO POSTS.

4.) SPEED ADVISORY PLATE SHALL BE PLACED ON SIGN SUPPORT NEAREST TRAFFIC. ADVISORY SPEED LIMIT SHALL BE DETERMINED BY THE ENGINEER ON SITE.

5.) AN ARROW PANEL SHALL BE LOCATED ON THE SHOULDER AT THE BEGINNING OF THE MERGING TAPER OR LOCATED IN THE CLOSED LANE WHEN THE SHOULDER IS NARROW. IF INSTALLED ON THE SHOULDER, A SHOULDER TAPER SHALL BE REQUIRED. TAPER LENGTH SHALL BE 300 FEET. SPACING OF CHANNELIZED DEVICES THROUGH THE SHOULDER TAPER SHALL NOT EXCEED A DISTANCE EQUAL TO THE NORMAL POSTED SPEED LIMIT.

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7.) OBLITERATE SKIP LINES THRU THE LENGTH OF TAPERS BY APPROVED METHOD. OTHER CONFLICTING PAVEMENT MARKINGS SHALL BE OBLITERATED.

8.) SIGNS SHALL BE MADE INACCESSIBLE TO THE VIEW OF TRAFFIC WHENEVER SIGN MESSAGE DOES NOT APPLY.

9.) BUFFER SPACE (OPTIONAL).

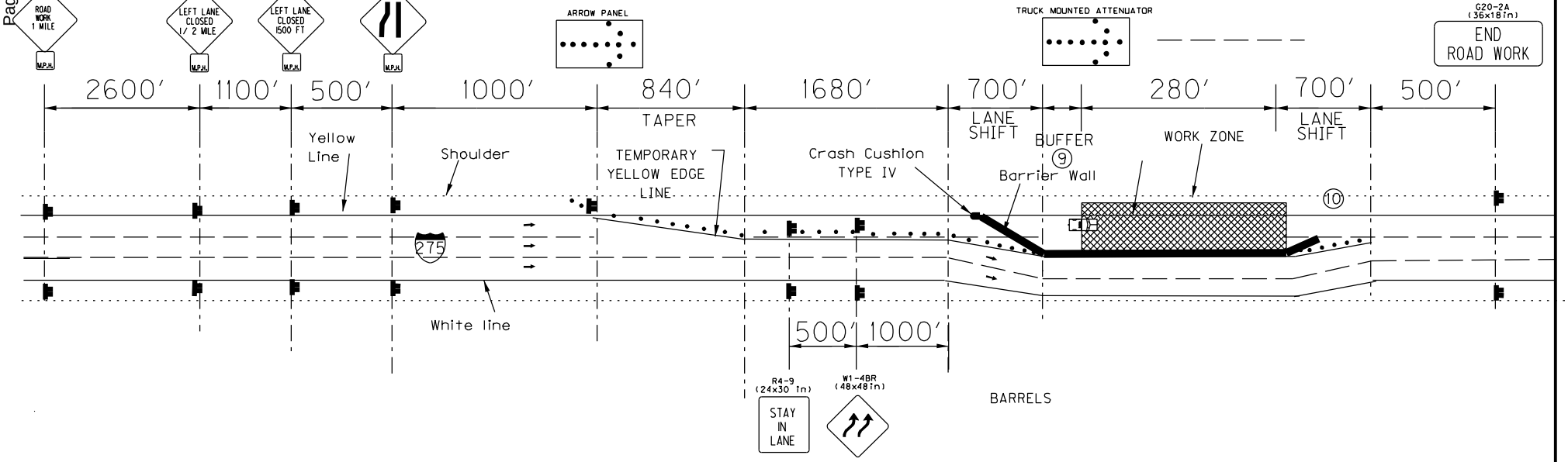
10.) DOWNSTREAM TAPER SHALL HAVE A MAXIMUM LENGTH OF 100'. SPACING OF CHANNELIZING DEVICES THRU THE DOWNSTREAM TAPER SHALL BE 20'.

059-0275-B00059L

NOT TO SCALE

PHASE II

Not to Scale



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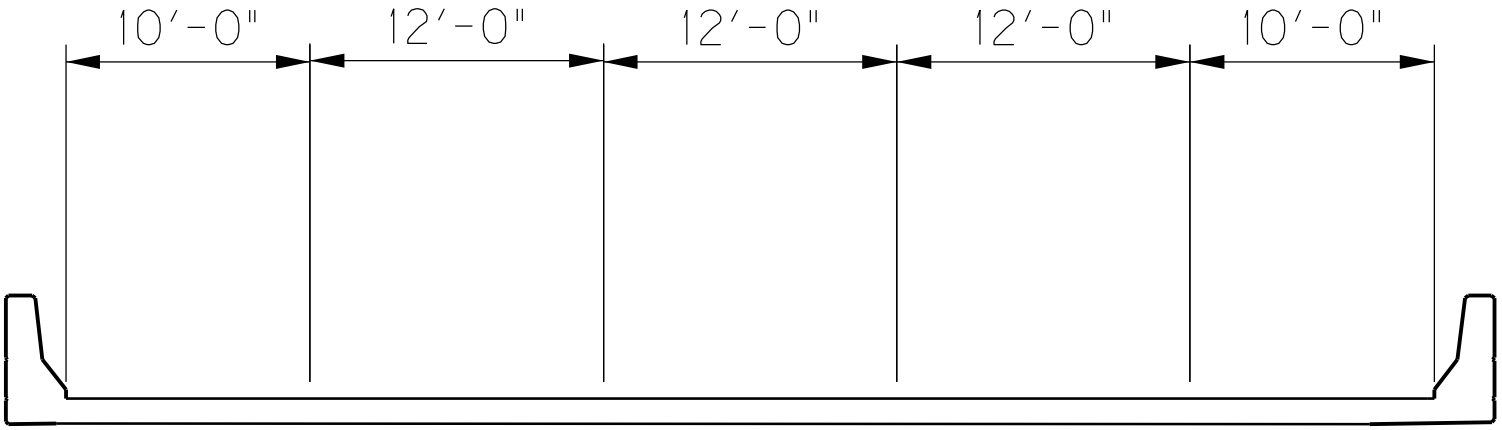
059-0275-B00059L

NOT TO SCALE

059B00059L
TRAFFIC LANES



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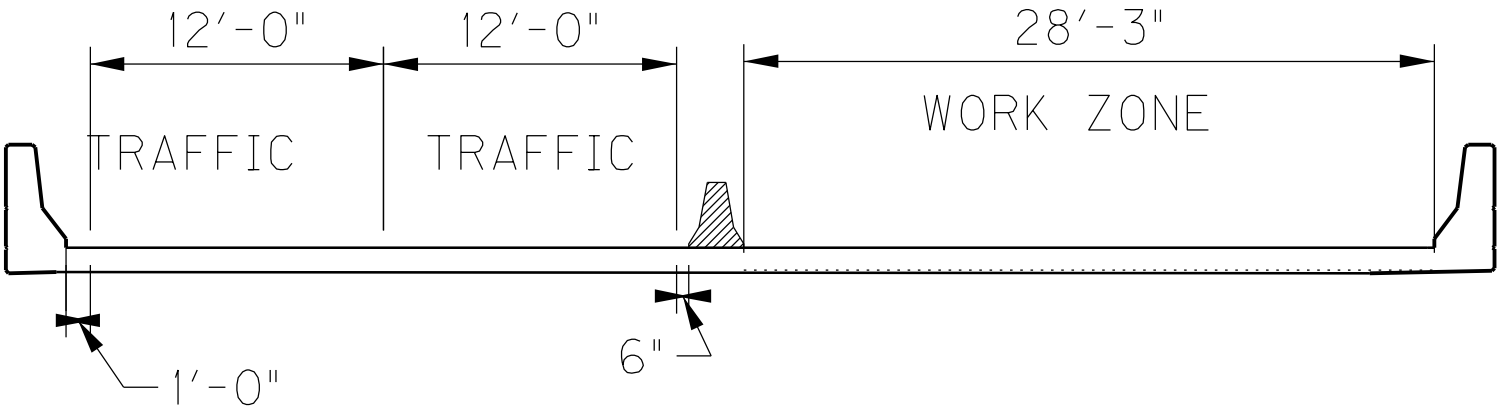

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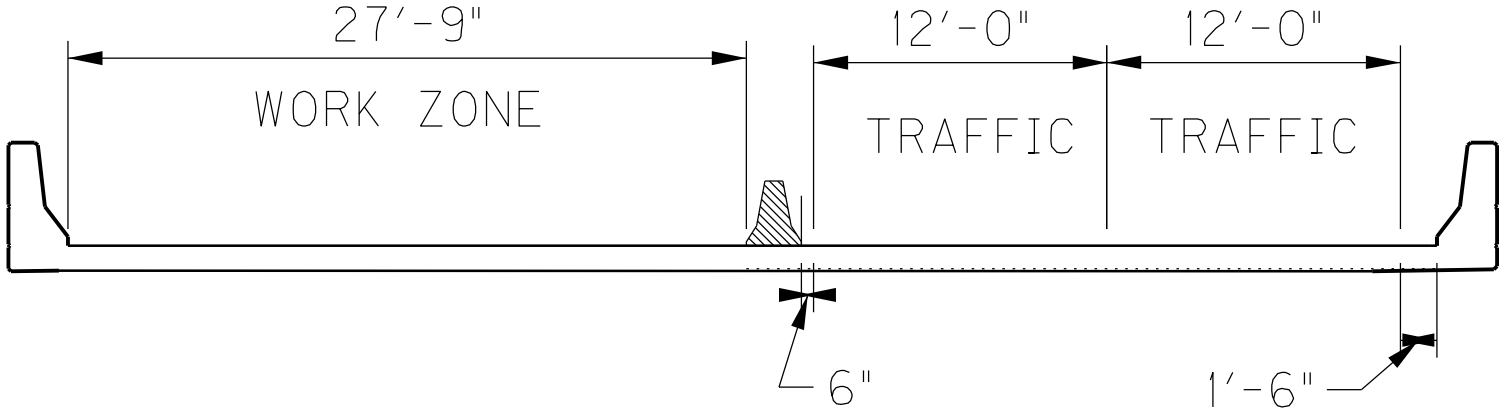

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PHASE I

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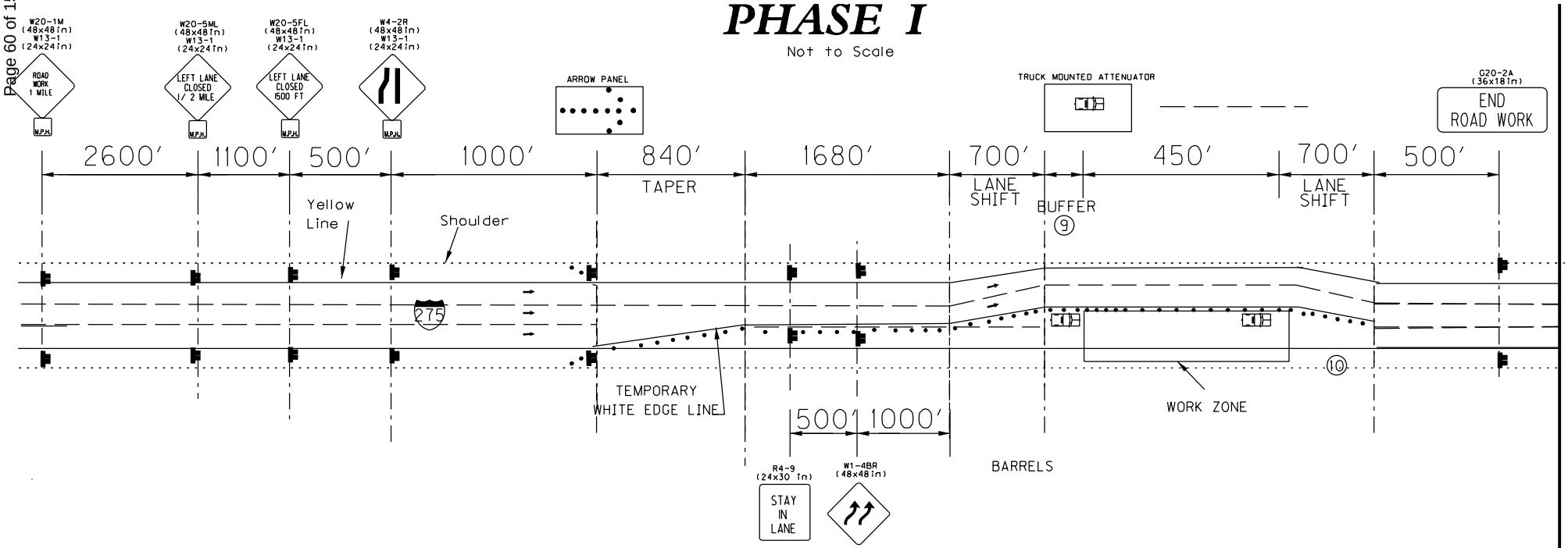

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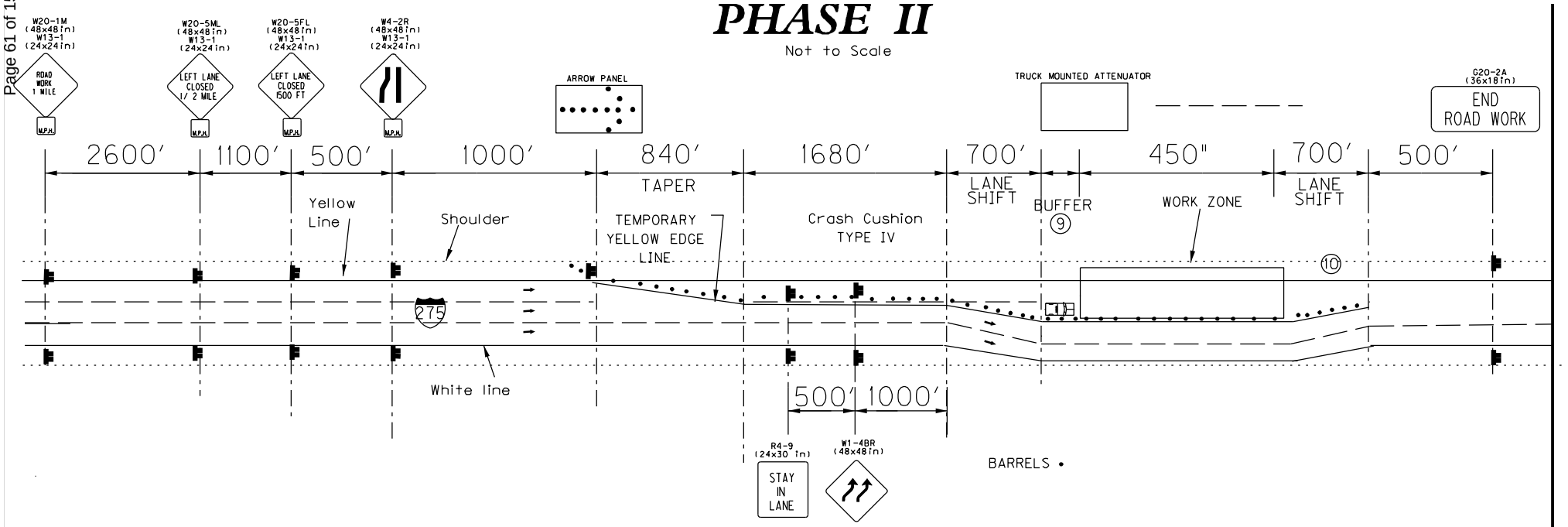
NOT TO SCALE

PHASE II

Not to Scale



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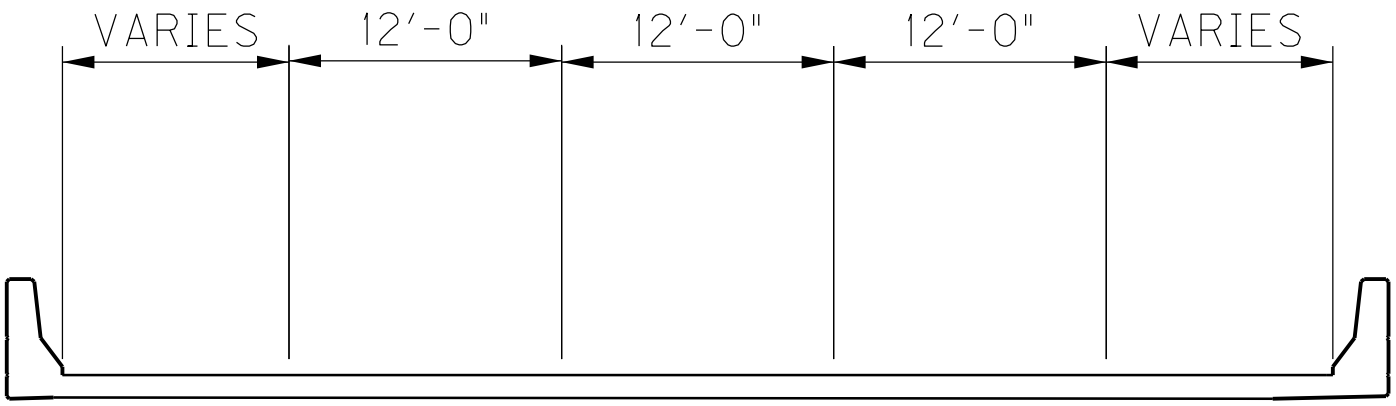
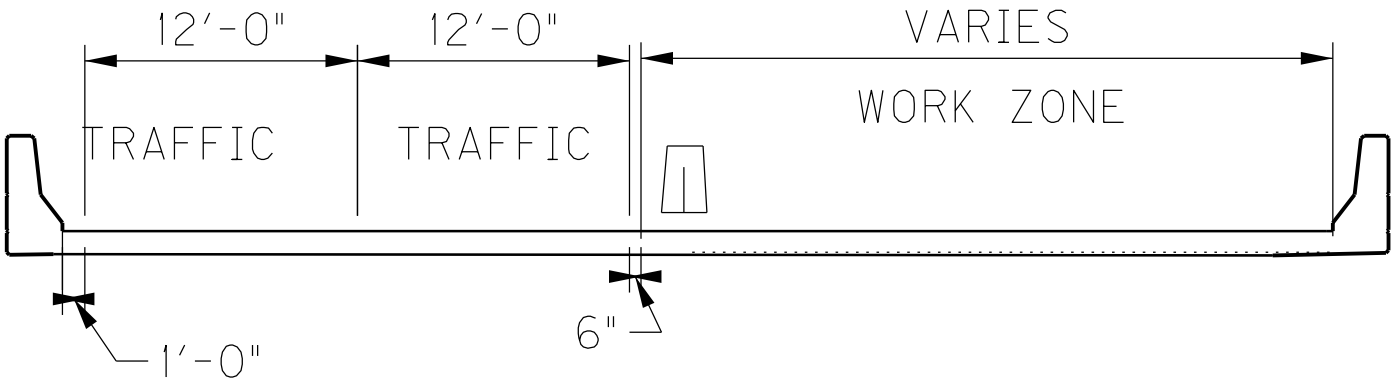
TRAFFIC LANES



Phase I



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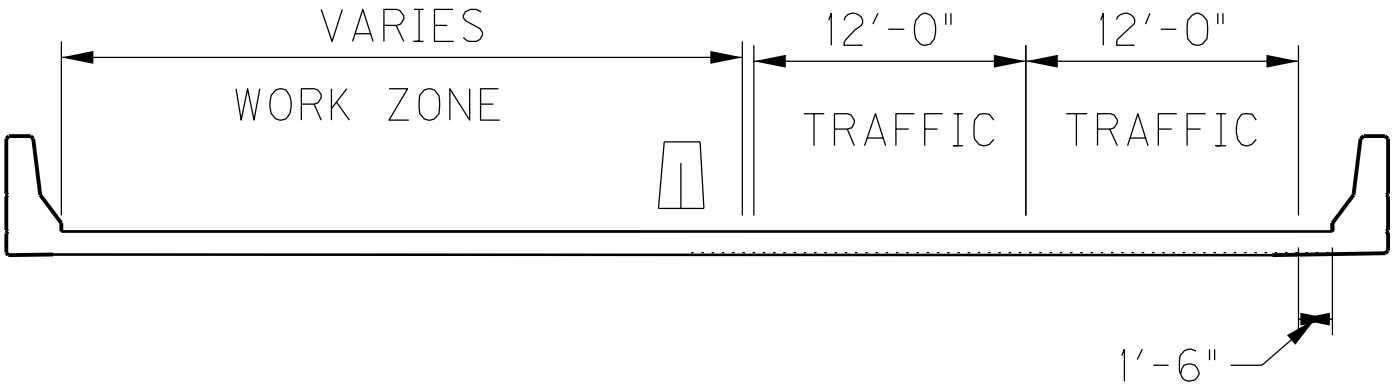

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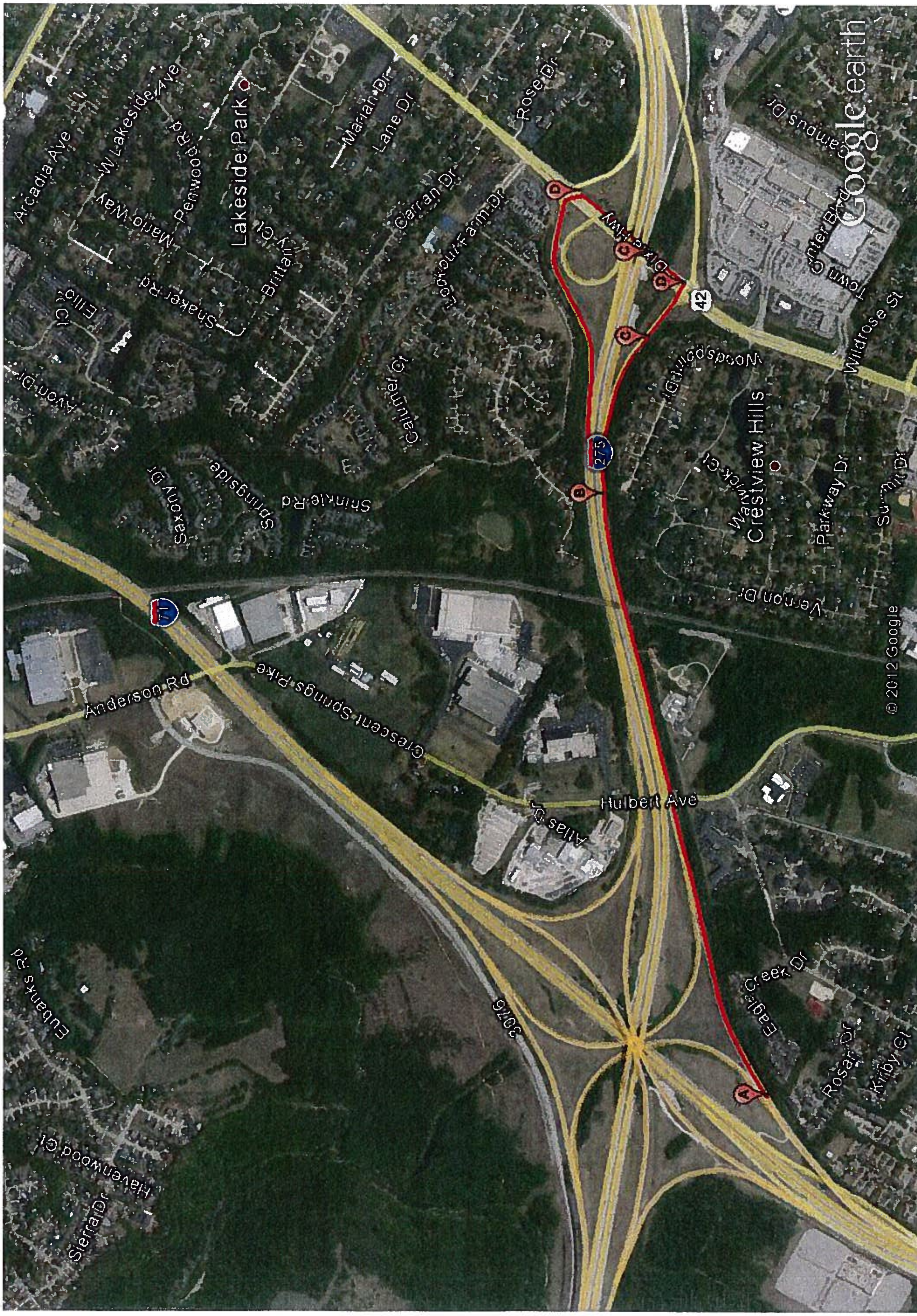
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Arcadia Ave
W Lakeside Ave
Penwood Rd
Mario Way
Shaker Rd
Mariah Dr
Lane Dr
Carran Dr
Rose Dr
Dixie Hwy
Town Center Blvd
Wildrose St
Crestview Hills
Warwick Ct
Parkway Dr
Vernon Dr
Avon Dr
Saxony Dr
Springside
Shinkle Rd
Anderson Rd
Crescent Springs Pike
Hulbert Ave
Atlas Ct
Eagle Creek Dr
Kirby Ct
Eubanks Rd
Havenwood Ct
Sierra Dr
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A
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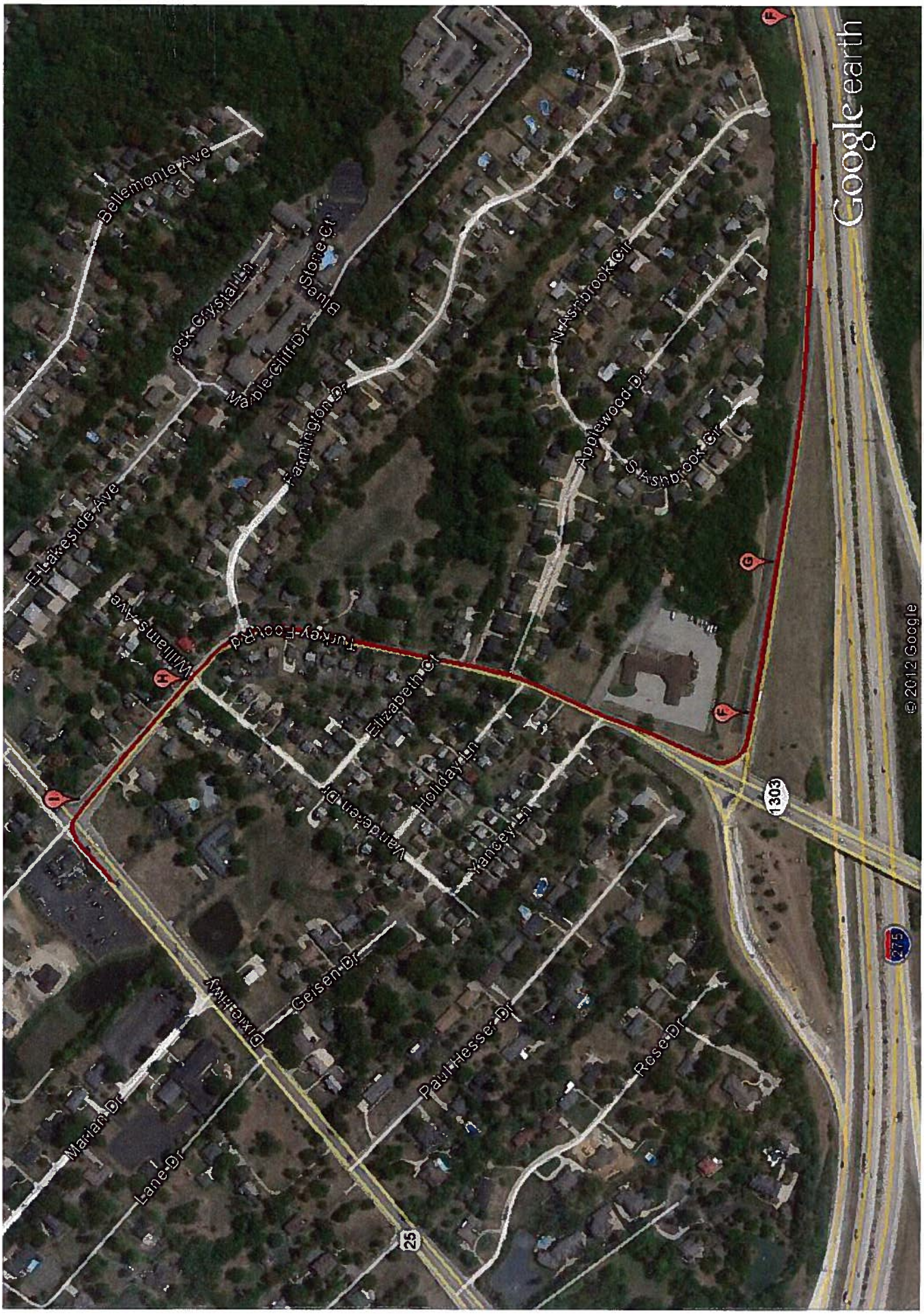
© 2012 Google
Google earth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Stone Ct
Maple Cliff Dr
Farrington Dr
Nashbrook Cir
Applewood Dr
Ashbrook Cir
E Lakeside Ave
Williams Ave
Turney Ridge Rd
Elizabeth Ct
Holiday Dr
Vanderbeam Dr
Nancey Ln
Gelsen Dr
Dixie Hwy
Paul Hesser Dr
Rose Dr
Marian Dr
Lane Dr
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Google earth
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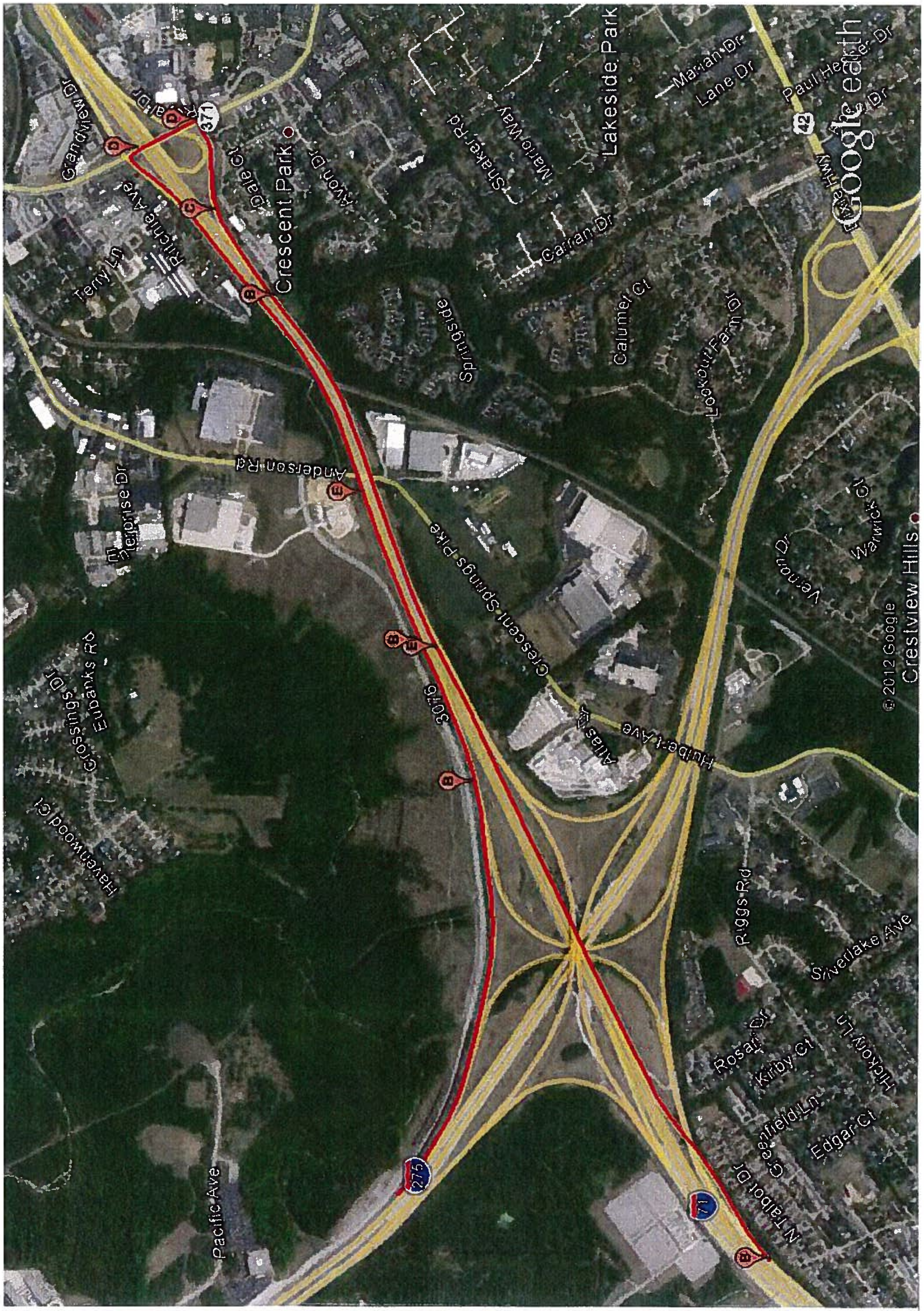
Crescent Park
Lakeside Park
Crestview Hills
Anderson Rd
Crescent Springs Pike
Hubert Ave
Atlas Ct
Carran Dr
Springside
Calumet Ct
Lookout Farm Dr
Shaker Rd
Mario Way
Avon Dr
Dale Ct
Ritchie Ave
Terry Ln
Grandview Dr
Enterprise Dr
Eubanks Rd
Crossings Dr
Havenwood Ct
Pacific Ave
Riggs Rd
Silverlake Ave
Rosary Dr
Kirby Ct
Greenfield Ln
Edgar Ct
Hickory Ln
N Talbot Dr
Vernon Dr
Warwick Ct
Marian Dr
Lane Dr
Paul Hesser Dr
Dixie Hwy
3076
371
42
275
71
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Google earth

DETOUR SIGN KEY

MAP KEY	NUMBER OF LOCATIONS	SIGN MESSAGE	SIGN DESIGNATION	SIZE	AREA (sf)	TOTALS
A	1	DETOUR ↑	M4-9	30X24	5.00	5.00
		INTERSTATE SHIELD	M1-1	24X24	4.00	4.00
		WEST	M3-4	12X24	2.00	2.00
B	5	DETOUR ↗	M4-9	30X24	5.00	25.00
		INTERSTATE SHIELD	M1-1	24X24	4.00	20.00
		WEST	M3-4	12X24	2.00	10.00
C	3	DETOUR ←¬	M4-9 DOG LEG LEFT	30X24	5.00	15.00
		INTERSTATE SHIELD	M1-1	24X24	4.00	12.00
		WEST	M3-4	12X24	2.00	6.00
D	4	DETOUR ←	M4-9	30X24	5.00	20.00
		INTERSTATE SHIELD	M1-1	24X24	4.00	16.00
		WEST	M3-4	12X24	2.00	8.00
E	2	DETOUR Γ→	M4-9 DOG LEG RIGHT	30X24	5.00	10.00
		INTERSTATE SHIELD	M1-1	24X24	4.00	8.00
		WEST	M3-4	12X24	2.00	4.00

QUANTITY (sf) = 165.00

Exact Location of Detour Signs to be Determined by the Engineer

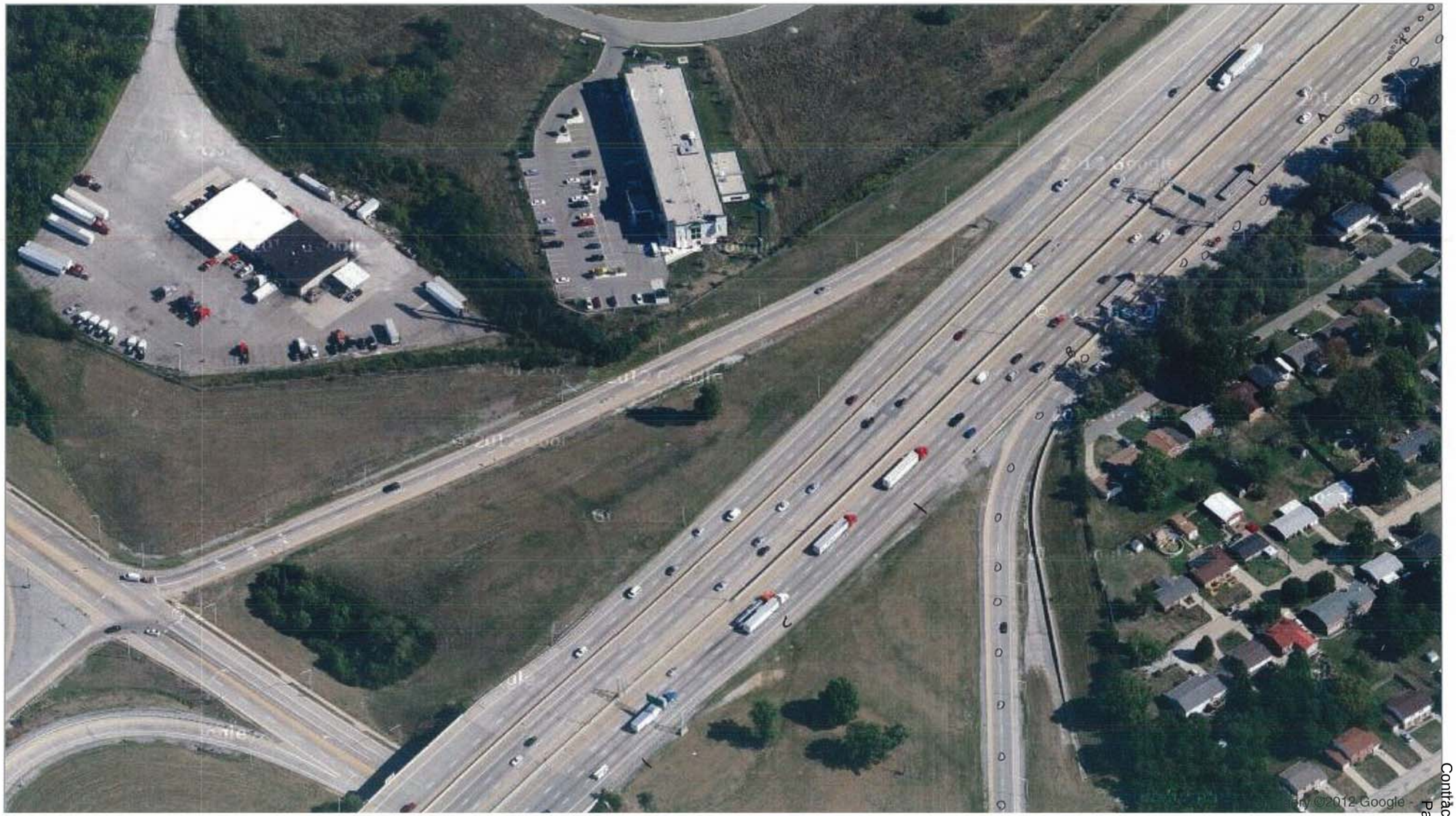
I-75 to I-275 Traffic Control

Google

Not Drawn to Scale → Follow MUTCD for appropriate distances

I-75 to I-275 Traffic Control

Google



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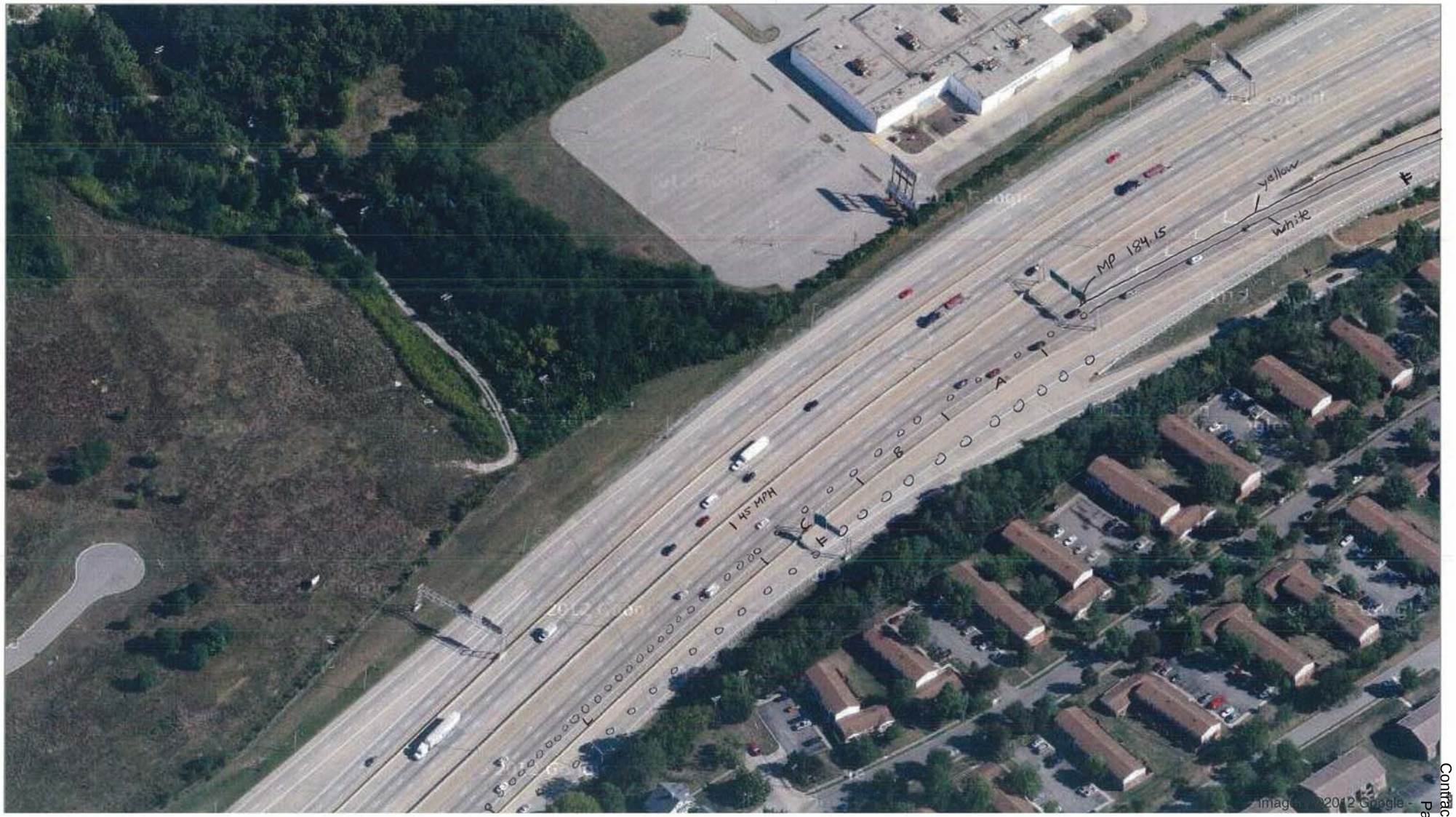


I-75 to I-275 Traffic Control

Google

900' Lane shift Taper
& buffer between traffic & work zone

PERMANENT TRAFFIC DATA ACQUISITION STATIONS
ESTIMATE OF QUANTITIES

Bid Item Code	Description	Unit	Quantity
2562	SIGNS	SQ FT	
2650	MAINTAIN AND CONTROL TRAFFIC	LP SUM	
2775	FLASHING ARROW	EACH	
4791	CONDUIT ¾ INCH	LIN FT	
4793	CONDUIT 1 ¼ INCH	LIN FT	80
4795	CONDUIT 2 INCH	LIN FT	20
4810	JUNCTION BOX	EACH	
4811	JUNCTION BOX TYPE B	EACH	
4820	TRENCHING AND BACKFILLING	LIN FT	90
4821	OPEN CUT ROADWAY	LIN FT	
4829	PIEZOELECTRIC SENSOR	EACH	6
4830	LOOP WIRE	LIN FT	3900
4850	CABLE NO. 14/1 PAIR	LIN FT	
4871	POLE – 35’ WOODEN	EACH	
4895	LOOP SAW SLOT AND FILL	LIN FT	685
4899	ELECTRICAL SERVICE	EACH	
4901	TELEPHONE SERVICE	EACH	
20213EC	INSTALL PAD MOUNT ENCLOSURE	EACH	
20359EC	GALV STEEL CABINET	EACH	2
20360ES818	WOOD POST	EACH	4
20391ES835	JUNCTION BOX TYPE A	EACH	2
20392ES835	JUNCTION BOX TYPE C	EACH	
20468EC	JUNCTION BOX 10x8x4	EACH	
21543EN	BORE AND JACK PIPE – 2 IN	LIN FT	
23206EC	INSTALL CONTROLLER CABINET	EACH	

MATERIAL, INSTALLATION, AND BID ITEM NOTES FOR PERMANENT TRAFFIC DATA ACQUISITION STATIONS

1. DESCRIPTION

Except as specified in these notes, all work shall consist of furnishing and installing all materials necessary for permanent data acquisition station equipment installation(s) and shall be performed in accordance with the current editions of:

- The Contract
- Division of Planning Standard Detail Sheets
- Kentucky Transportation Cabinet, Department of Highways, *Standard Specifications for Road and Bridge Construction*
- Kentucky Transportation Cabinet, Department of Highways, Standard Drawings
- National Fire Protection Association *(NFPA) 70: National Electrical Code*
- Institute of Electrical and Electronic Engineers (IEEE), *National Electrical Safety Code*
- Federal Highway Administration, *Manual on Uniform Traffic Control Devices*
- American Association of State Highway and Transportation Officials (AASHTO), *Roadside Design Guide*.
- Standards of the utility company serving the installation, if applicable

The permanent traffic data acquisition station layout(s) indicate the extent and general arrangement of the proposed installation and are for general guidance. Any omission or commission shown or implied shall not be cause for deviation from the intent of the plans and specifications. Information shown on the plans and in this proposal and the types and quantities of work listed are not to be taken as an accurate or complete evaluation of the material and conditions to be encountered during construction. The bidder must draw his own conclusion as to the conditions encountered. The Department of Highways (Department) does not give any guarantee as to the accuracy of the data and no claim will be considered for additional compensation if the conditions encountered are not in accordance with the information shown. If any modifications of the plans or specifications are considered necessary by the Contractor, details of such modifications and the reasons, therefore, shall be submitted in writing to the Engineer for written approval prior to beginning such modified work.

The Contractor shall contact all utility companies and the district utility agent prior to beginning construction to insure proper clearance and shielding from existing and proposed utilities. The Contractor shall use all possible care in excavating on this project so as not to disturb any existing utilities whether shown on the plans or not shown on the plans. Any utilities disturbed or damaged by the Contractor during construction shall be replaced or repaired to original condition by the Contractor at no cost to the department. If necessary, to avoid existing utilities, the Contractor shall hand dig areas where poles or conduit cross utilities.

The Contractor shall be responsible for all damage to public and/or private property resulting from his work.

The Contractor shall inspect the project site prior to submitting a bid and shall be thoroughly familiarized with existing conditions. Submission of a bid will be considered an affirmation of this inspection having been completed. The Department will not honor any claims resulting from site conditions.

2. MATERIALS

All proposed materials shall be approved prior to being utilized. The Contractor shall submit for material approval an electronic file of descriptive literature, drawings and any requested design data for the proposed materials. After approval, no substitutions of any approved materials may be made without the written approval of the Engineer.

Materials requiring sampling shall be made available a sufficient time in advance of their use to allow for necessary testing.

2.1. Anchoring

2.1.1. Anchor and Anchor Rod

Anchor, except rock anchor, shall be expanding type, with a minimum area of 135 square inches.

Anchor rod shall be galvanized steel, double-eye, have a minimum diameter of 5/8 inches, and a minimum length of 84 inches. Minimum holding capacity shall be 15,400 lbs.

Rock anchor shall be galvanized steel, triple-eye, expanding type, with a minimum diameter of ¾ inch, a minimum 53 inches long, and a minimum tensile strength of 23,000 lb.

2.1.2. Guy Wire and Guy Guard

Guy wire shall be Class A, Zinc-coated, 3/8 inch diameter, high strength grade steel (minimum 10,800 lb.) and galvanized per ASTM A475. Guy guard shall be 8’ long, fully-rounded, yellow, and able to be securely attached to the guy wire.

2.1.3. Strandvise for Guy Wire

Strandvise for guy wire shall be 3/8 inch and rated to hold a minimum of 90% of the rated breaking strength (RBS) of the strand used.

2.2. Asphalt

Asphalt shall be a minimum CL2 Asph Surf 0.38C PG64-22 and conform to the *Standard Specifications for Road and Bridge Construction.*

2.3. Backer Rod

Backer rod shall be ½ inch diameter, closed cell polyethylene foam and shall meet or exceed the following physical properties:

- Density (average): 2.0 lbs/cu.ft. (minimum): ASTM D 1622 test method
- Tensile Strength: 50 PSI (minimum): ASTM D 1623 test method
- Compression Recovery: 90% (minimum): ASTM D 5249 test method
- Water Absorption: 0.03 gm/cc (maximum): ASTM C 1016 test method

2.4. Cabinets

2.4.1. Galvanized Steel Cabinet

Galvanized Steel Cabinet shall be constructed of 16 or 14 gauge galvanized steel and shall meet or exceed the industry standards set forth by UL 50 and NEMA 3R. The finish shall be an ANSI 61 gray polyester powder finish inside and out over the galvanized steel. Cabinet shall have minimum inside dimensions of 20 inches high by 20 inches wide by 8 inches deep.

The cabinet shall be equipped with the following:

- Drip shield top
- Seam-free sides, front, and back, to provide protection in outdoor installations against rain, sleet, and snow
- Hinged cover with 16 gauge galvanized steel continuous stainless steel pin.
- Cover fastened with captive plated steel screws, knob or latch
- Hasp and staple for padlocking
- No gaskets or knockouts
- Back panel for terminal block installation
- Post mounting hardware
- Terminal Blocks

2.4.2. Anchor Bolt for Pad Mounted Cabinet

Anchor bolt for pad mounted cabinet shall be galvanized steel with minimum dimensions of 3/8 inch by 6 inches.

2.5. Concrete

Concrete shall be Class A and conform to the *Standard Specifications for Road and Bridge Construction.*

2.6. Conduit and Conduit Fittings

Conduit and conduit fittings shall be rigid steel unless otherwise specified.

Conduit shall be zinc galvanized inside and out and conform to the NEC, UL Standard 6, and ANSI C-80.1.

Rigid Steel Conduit Fittings shall be galvanized inside and out and conform to the NEC, UL Standard 514B, and ANSI C-80.4. Intermediate Metal Conduit (IMC) will not be approved as an acceptable alternative to rigid steel conduit.

2.7. Conduit sealant

Conduit sealant shall be weather-, mold-, and mildew-resistant and chemically resistant to gasoline, oil, dilute acids and bases. Conduit sealant shall be closed cell type and shall meet or exceed the following properties:

- Cure Time — 20 minutes max.
- Density — 64.4 kg/m3; 6 lbs/ft3
- Compressive Strength (ASTM 1691) — 13.8 MPa; 330 or 300 psi

- Tensile Strength (ASTM 1623) 15.9 MPa; 270 or 250 psi
- Flexural Strength (ASTM D790) 14.5 MPa; 460 or 450 psi
- Service Temperature -20 to 200 F

2.8. Electrical Service Meter Base

Electrical service meter base shall meet or exceed all requirements of the National Electrical Code and the local utility providing the electrical service.

2.9. Electrical Service Disconnect

Electrical service disconnect shall meet or exceed all requirements of the National Electrical Code and the local utility providing the electrical service.

2.10. Flashing Arrow

Flashing Arrow shall conform to the *Standard Specifications for Road and Bridge Construction.*

2.11. Ground Fault Circuit Interrupter (GFCI) Receptacle

Ground Fault Circuit Interrupter Receptacle shall be 2-pole, 3-wire, 20 Amp, 125 Volt, 60 Hz, NEMA 5-20R configuration and meet or exceed the following standards and certifications:

- NEMA WD-1 and WD-6
- UL 498 and 943
- NOM 057
- ANSI C-73

This item shall include a UL listed, 4 inch x4 inch x $2^{1}/_{8}$ inch box with ¾ inch side and end knockouts and a 1½ inches deep, single-receptacle cover to house the GFCI receptacle. Box and cover shall be hot rolled, galvanized steel with a minimum thickness of 0.62 inches.

2.12. Grounding

2.12.1. Ground Rod

Ground Rod shall be composite shaft consisting of a pure copper exterior (5 mil minimum) that has been inseparably molten welded to a steel core. Ground Rod shall have a minimum diameter of 5/8 inch, a minimum length of 8 feet and shall be manufactured for the sole purpose of providing electrical grounding.

2.12.2. Ground Rod Clamp

Ground rod shall be equipped with a one piece cast copper or bronze body with a non-ferrous hexagonal head set screw and designed to accommodate a 10 AWG solid through 2 AWG stranded grounding conductor.

2.13. Grout

2.13.1. Grout for Inductive Loop Installation

Grout for inductive loop installation shall be non-shrink, shall meet the requirements of the *Standard Specifications for Road and Bridge Construction*,

and shall be included on the KYTC Division of Materials, *List of Approved Materials*.

2.13.2. Grout for Piezoelectric Sensor Installation

Grout for piezoelectric sensor installation shall be per the piezoelectric sensor manufacturer's recommendation. Grout shall be suitable for installation in both asphalt and Portland cement pavements. Grout shall have a short curing time (tack free in ten minutes; open to traffic in forty minutes; and fully cured within sixty minutes) to prevent unnecessary lane closure time and should be of sufficient consistency to prevent running when applied on road surfaces with a drainage cross slope. Particulate matter within the grout shall not separate or settle and the grout shall not shrink during the curing process.

2.14. Hardware

Except where specified otherwise, all hardware such as nuts, bolts, washers, threaded ends of fastening devices, etc. with a diameter less than 5/8 inch shall be passivated stainless steel, alloy type 316 or type 304. Stainless steel hardware shall meet ASTM F593 and F594 for corrosion resistance. All other nuts and bolts shall meet ASTM A307 and shall be galvanized.

2.14.1. Conduit Strap

Conduit strap shall be double-hole, stainless steel, and sized to support specified conduit. Conduit strap shall attach to wood pole or post with two 2 ¼ inch wood screws.

2.14.2. Mounting Strap for Pole Mount Cabinet

Mounting strap for pole mount cabinet shall be ¾ inch x 0.03 inch stainless steel; equipped with clips or buckles to securely hold strap

2.14.3. Metal Framing Channel and Fittings

Metal framing channel shall be 1 5/8 inches wide galvanized steel that conforms to ASTM A1011 and ASTM A653. One side of the channel shall have a continuous slot with in-turned edges to accommodate toothed fittings.

Fittings shall be punch pressed from steel plates and conform to ASTM A575 and the physical requirements of ASTM A1011.

2.15. Junction Box

2.15.1. Junction Box Type A, B, or C

Junction Box Type A, B, or C shall meet or exceed ANSI/SCTE 77-2007, Tier 15. Box shall have an open bottom. A removable, non-slip cover marked "PLANNING" shall be equipped with a lifting slot and attached with a minimum of two 3/8 inch stainless steel hex bolts and washers. Type A Box shall have nominal inside dimensions of 13 inches wide by 24 inches long by 18 inches deep. Type B Box shall have nominal inside dimensions of 11 inches wide by 18 inches long by 12

inches deep. Type C Box shall have nominal inside dimensions of 24 inches wide by 36 inches long by 30 inches deep.

2.15.2. Aggregate for Junction Box Type A, B, or C

Aggregate for junction box type A, B, or C shall be gradation size no. 57 and conform to the *Standard Specifications for Road and Bridge Construction*.

2.15.3. Junction Box 10x8x4

Junction Box Type 10x8x4 shall be constructed of a UV-stabilized, nonmetallic material or non-rusting metal and be weatherproof in accordance with NEMA 4X. Box shall be equipped with an overhanging door with a continuous durable weatherproof gasket between the body and door. Door shall be hinged with stainless steel screws, hinge(s) and pin(s) and shall be equipped with a stainless steel padlockable latch on the side opposite the hinge(s). Junction Box 10x8x4 shall have minimum inside dimensions of 10 inches high by 8 inches wide by 4 inches deep.

2.16. Maintain and Control Traffic

Materials for the bid item Maintain and Control Traffic shall conform to the *Standard Specifications for Road and Bridge Construction,* and the KYTC Department of Highways *Standard Drawings.*

2.17. Piezoelectric Sensor

Piezoelectric sensor (piezo) shall provide a consistent level voltage output signal when a vehicle axle passes over it, shall have a shielded transmission cable attached, and shall meet the following requirements:

- Dimensions: such that sensor will fit in a ¾ inch wide by 1 inch deep saw cut. Total length shall be as specified.
- Output uniformity: ± 7% (maximum)
- Typical output level range: 250mV (minimum) from a wheel load of 400 lbs.
- Working temperature range: -40° to 160° F.
- Sensor life: 30 million Equivalent Single Axle Loadings (minimum)

Shielded transmission cable shall be coaxial and shall meet the following requirements:

- RG 58C/U with a high density polyethylene outer jacket rated for direct burial
- Length shall be a minimum of 100 feet. Installations may exceed 100 feet so the piezo shall be supplied with a lead-in of appropriate length so that the cable can be installed splice-free from the piezo to the cabinet.
- Soldered, water resistant connection to the sensor.

One installation bracket for every 6 inches of sensor length shall also be supplied. Piezo shall be a RoadTrax BL Class I or approved equal.

2.18. Saw Slot Sealant

Saw Slot Sealant shall be non-shrink, non-stringing, moisture cure, polyurethane encapsulant suitable for use in both asphalt and concrete pavements. It shall provide a void-free encapsulation for detector loop cables and adequate compressive yield strength and flexibility to withstand heavy vehicular traffic and normal pavement movement.

The cured encapsulant shall meet or exceed the following:

- Hardness (Indentation): 35-65 Shore A, ASTM D2240
- Tensile Strength: 150 psi minimum, ASTM D412
- Elongation: 125% minimum 2 inch/minute pull, ASTM D412
- Tack-free Drying Time: 24 hours maximum, ASTM C679
- Complete Drying Time: 30 hours maximum, KM 64-447
- Chemical Interactions (seven day cure at room temperature, 24-hour immersion, KM 64-446):
  - Motor Oil: No effect
  - Deicing Chemicals: No effect
  - Gasoline: Slight swell
  - Hydraulic Brake Fluid: No effect
  - Calcium Chloride (5%): No effect

2.19. Seeding and Protection

Material for Seeding and Protection shall be Seed Mixture Type I and conform to the *Standard Specifications for Road and Bridge Construction.*

2.20. Signs

Materials for signs shall conform to the *Standard Specifications for Road and Bridge Construction.*

2.21. Splicing Materials

2.21.1. Electrical Tape

Electrical tape shall be a premium grade, UL-listed, all-weather, vinyl-insulating tape with a minimum thickness of 7 mil. Tape shall be flame retardant and resistant to abrasion, moisture, alkalis, acids, corrosion, and weather (including ultraviolet exposure).

2.21.2. Splice Kit

Splice kit shall be inline resin-type and rated for a minimum of 600V. Resin shall be electrical insulating-type and shall provide complete moisture and insulation resistance.

2.22. Steel Reinforcing Bar

Steel reinforcing bar shall be #5 and shall conform to the *Standard Specifications for Road and Bridge Construction.*

2.23. Terminal Block

Terminal block shall be rated for a minimum of 300 V and have a minimum of six terminal pairs with 9/16-inch nominal spacing (center to center) for connecting loop and piezoelectric sensor wires to cable assemblies. Terminal block shall have screw type terminal strips to accommodate wire with spade-tongue ends.

2.24. Warning Tape

Warning tape shall be acid and alkali resistant formulated for direct burial. Tape shall be a minimum of 3 inches wide by 4.0 mils (nominal) thick, and shall be permanently imprinted with a minimum 1 inch black legend on a red background warning of an electric line. Tape shall meet or exceed the following industry specifications:

- American Gas Association (AGA) 72-D-56
- American Petroleum Institute (API) RP 1109
- American Public Works Association (APWA) Uniform Color Code
- Department of Transportation (DOT) Office of Pipeline Safety USAS B31.8
- Federal Gas Safety Regulations S 192-321 (e)
- General Services Administration (GSA) Public Buildings Service Guide: PBS 4-1501, Amendment 2
- National Transportation Safety Board (NTSB) PSS 73-1
- Occupational Safety and Health Administration (OSHA) 1926.956 (c) (1)

2.25. Wire and Cable

All cable and wire shall be plainly marked in accordance with the National Electrical Code (NEC).

2.25.1. Loop Wire

Loop wire shall be 14 AWG, stranded, copper, single conductor, and shall conform to the International Municipal Signal Association (IMSA) Specification No. 51-7.

2.25.2. Cable No. 14/1 Pair

Cable No. 14/1 pair loop lead-in cable shall be 14 AWG, stranded, copper paired, electrically shielded conductors, and shall conform to IMSA 19-2.

2.25.3. Grounding conductor

Grounding conductor and bonding jumper shall be solid or stranded, 4 AWG bare copper.

2.25.4. Service Entrance Conductor

Service entrance conductor shall be stranded, copper, Type USE-2, sized as required to comply with the NEC.

2.25.5. Telephone Wire

Telephone wire shall be Category 3 (Cat 3) or Category 5 (Cat 5) and shall be equipped with an RJ-11 modular plug.

2.25.6. Terminal for electrical wire or cable

Terminal for electrical wires or cables shall be insulated, solderless, spade tongue terminals of correct wire and stud size. Terminal for electrical wires or cables shall be incidental to the wire or cable (including piezoelectric sensor transmission cable) to be connected to terminal strips.

2.26. Wood Post

Wood post shall be pretreated to conform to the American Wood Preservers' Association (AWPA) C-14 and shall have minimum dimensions of 4 inches by 4 inches by 8 feet long (for Galvanized Steel Cabinet) or 4 feet long (for Junction Box 10x8x4), sawed on all four sides with both ends square.

2.27. Wooden Pole

Wooden pole shall be a Class IV wood pole of the length specified and shall conform to the *Standard Specifications for Road and Bridge Construction* except the pole shall be treated in accordance with AWPA P9 Type A.

3. CONSTRUCTION METHODS

The plans indicate the extent and general arrangement of the installation and are for guidance. When the Contractor deems any modifications to the plans or specifications necessary, details of such changes and the reasons shall be submitted in writing to the engineer for written approval prior to beginning the modified work.

After the project has been let and awarded, the Division of Construction shall notify the Division of Planning of the scheduled date for a Pre-Construction meeting so that prior arrangements can be made to attend. This will allow the Division of Planning an opportunity to address any concerns and answer any questions that the Contractor may have before beginning the work.

The Division of Planning Equipment Management Team (502-564-7183) shall be notified a minimum of seven days before any work pertaining to these specifications begins to allow their personnel the option to be present during installation.

Unless otherwise specified, installed materials shall be new.

Construction involving the installation of loops or piezoelectric sensors shall not be performed when the temperature of the pavement is less than 38ºF.

A final inspection will be performed by a member of the Central Office Division of Planning equipment staff after the installation is complete to verify that the installation is in compliance with the plans and specifications.

Any required corrective work shall be performed per the *Standard Specifications for Road and Bridge Construction.*

3.1. Anchoring

Furnish: Anchor, anchor rod, guy wire, strand vise, guy guard.

Anchor shall be installed in relatively dry and solid soil. Rock anchor shall be installed in solid rock. Excavate the hole at a 45° to 60° angle in line with the guy (hole size shall be slightly larger than the expanded anchor – see manufacturer's recommendation). Attach rod to anchor, install assembly into hole, and expand anchor. Backfill and tamp entire disturbed area. The effectiveness of the anchor is dependent upon the thoroughness of backfill tamping. Attach guy to strand vise on pole and anchor rod and tighten to required tension. Install guy guard on guy.

3.2. Bore and Jack Pipe – 2"

Furnish: Steel Encasement Pipe, 2"

Bore and jack pipe – 2" shall conform to the Section 706 of the *Standard Specifications for Road and Bridge Construction.*

3.3. Cleanup and Restoration

Furnish: Seed Mix Type 1 (as required); fertilizer (as required); agricultural limestone (as required); mulch or hydromulch (as required); tackifier (as required).

The Contractor shall be responsible for repairing any damage to public and/or private property resulting from his work. Upon completion of the work, restore all disturbed highway features in like kind design and materials. This shall include filling any ruts and leveling ground appropriately. Contractor shall dispose of all waste and debris off the project. Sow all disturbed earthen areas with Seed Mix Type 1 per Section 212 of the *Standard Specifications for Road and Bridge Construction*. All materials and labor necessary for cleanup and restoration shall be considered incidental to other bid items.

3.4. Conduit

Furnish: Conduit; conduit fittings; bushings (grounding where required); LB condulets (as required); weatherheads (as required); conduit straps; hardware; conduit sealant.

Conduit that may be subject to regular pressure from traffic shall be laid to a minimum depth of 24 inches below grade. Conduit that will not be subject to regular pressure from traffic shall be laid to a minimum depth of 18 inches below grade.

Conduit ends shall be reamed to remove burrs and sharp edges. Cuts shall be square and true so that the ends will butt together for the full circumference of the conduit. Tighten couplings until the ends of the conduit are brought together. Do not leave exposed threads. Damaged portions of the galvanized surfaces and untreated threads resulting from field cuts shall be painted with an Engineer-approved, rust inhibitive paint. Conduit bends shall have a radius of no less than 12 times the nominal diameter of the conduit, unless otherwise shown on the plans.

Contractor shall install a bushing (grounding bushing where required) on both ends of all conduits. Cap spare conduits on both ends with caps or conduit sealant.

Conduit openings in junction boxes and cabinets shall be waterproofed with a flexible, removable conduit, working it around the wires, and extending it a minimum 1 inch into the end of the conduit.

After the conduit has been installed and prior to backfilling, the conduit installation shall be inspected and approved by the Engineer.

3.5. Electrical Service

Furnish: Meter base, service disconnect, wire, GFCI AC duplex receptacle with box and cover; conduit, conduit fittings, bushings (grounding where required); LB condulets (as required); weatherhead; conduit straps; hardware; conduit sealant; ground rod with clamp; grounding conductor.

Prior to any construction, the Contractor shall initiate a work order with the local power

company for the installation of electrical service to the site. A representative from the Division of Planning and the local power company shall be consulted prior to choosing an exact location for the pole. The Contractor shall clear the right-of-way for the electrical service drop.

Contractor shall obtain electrical inspections, memberships, meter base, service disconnect and any other requirements by the utility serving the installation and pay all fees as required.

Install meter-base and disconnect panel with a 30-ampere, fused, circuit breaker inside. Install a manufactured weatherproof hub connectors to connect the conduit to the top of the meter base and service disconnect.

Install a rigid ¾ inch conduit with three 8 AWG service conductors from the cabinet, through the service disconnect to the meter base and a 1¼" conduit with three 8 AWG service conductors from the meter base to a weatherhead two feet from the top of the electrical service pole. Install conduit straps 30 inches on center and provide a drip loop where the wire enters the weatherhead. Splice electric drop with service entrance conductors at the top of the pole.

The limit of conduit incidental to "Install Electrical Service" for a pad mounted cabinet is 24 inches beyond face of service pole.

Install a 120-volt, 20-amp GFCI AC duplex receptacle with box and cover in the automatic data recorder (ADR) cabinet.

Install a ground rod with clamp. Install a grounding conductor wire from the meter base, through the disconnect panel, to the ground rod clamp. Install grounding conductor in 1-¾" conduit from service disconnect to ground rod.

After completing the installation and before the electrical service is connected, obtain a certificate of compliance from the Kentucky Department of Housing, Buildings and Construction, Electrical Inspection Division.

3.6. Flashing Arrow

Furnish: Arrow Panel

Construction of Flashing Arrow shall conform to the *Standard Specifications for Road and Bridge Construction.*

3.7. Galvanized Steel Cabinet

Furnish: Cabinet; wood posts; concrete; conduit fittings; metal framing channel; pipe clamp; terminal block(s); spade tongue wire terminals; wire labels; hardware.

Where right-of-way allows, locate the cabinet such that it is outside the clear zone in accordance with the *Roadside Design Guide*. Install Cabinet such that the door of the

cabinet faces the roadway.

Excavate as required and install wood posts to a depth of 36 inches and place concrete around posts as shown on the standard detail sheets. Install metal framing channel with pipe clamp between posts.

Install Cabinet on wood posts 38 inches above the finished grade as shown on the standard detail sheets. Install a unistrut between posts when two posts are specified.

Install the required number of terminal blocks on the cabinet back plate. Install a spade tongue terminal on each loop and piezo sensor wire entering the cabinet and connect wires to terminal block(s). Wiring shall be neat and orderly. Label all wires and cables inside cabinet.

Install conduit from ground to cabinet and attach to pipe clamp. Install locknuts to attach conduit to cabinet and install a conduit bushing as shown on the standard detail sheets.

3.8. Grounding

Furnish: Ground rod with clamp; grounding conductor.

At sites with electrical or solar service, all conduits, poles, and cabinets shall be bonded to ground rods and the electrical system ground to form a complete grounded system.

Install such that top of ground rod is a minimum of 3 inches below finished grade.

Grounding systems shall have a maximum 25 ohms resistance to ground. If the resistance to ground is greater than 25 ohms, two or more ground rods connected in parallel shall be installed. Adjacent ground rods shall be separated by a minimum of 6 feet.

3.9. Install Pad Mount Enclosure

Furnish: Concrete; anchor bolts with washers and nuts; conduit; conduit fittings; conduit grounding bushings; ground rod with clamp; grounding conductor; conduit sealant; wooden stakes (where required); wire labels; hardware.

The Contractor shall be responsible for securing the enclosure from the Central Office Division of Planning Warehouse in Frankfort and transporting it to the installation site.

Where right-of-way allows, locate the enclosure such that it is outside the clear zone in accordance with the *Roadside Design Guide*.

Excavate as required, and place concrete to construct the enclosure foundation as specified on the standard detail sheets. Install enclosure on the concrete base such that the door(s) of the enclosure opens away from traffic (hinges away from traffic). Install anchor bolts, washers, and nuts to secure the enclosure to the foundation.

Install ground rod with clamp and install one ¾ inch rigid conduit from enclosure base to

ground rod. Install a grounding conductor from ground rod to enclosure base and bond to each conduit bushing in the base.

Install two ¾ inch rigid steel conduits: one for electrical service and one for telephone service from the base of the enclosure to 24 inches beyond the concrete base. Make all field wiring connections to the electrical service and/or telephone service, as applicable.

If electrical and/or telephone service are not provided as bid items in the contract, plug conduit on both ends with a cap, conduit sealant, or electrical tape. Mark the location of the buried conduit end(s) with a wooden stake labeled "3/4 in. conduit."

Install specified rigid steel conduit(s) into the base of the enclosure for sensor wire entry. Install one spare 2 inch conduit from the enclosure base to 2 feet beyond the concrete base. Plug spare conduit on both ends with a cap, conduit sealant or electrical tape.

The limit of all conduits incidental to "Install Pad Mount Enclosure" is 24 inches beyond the edge of the concrete base.

Wiring in enclosure shall be neat and orderly. Label all wires and cables inside enclosure. KYTC personnel will furnish and install terminal blocks and connect sensors to terminal blocks.

3.10. Install Controller Cabinet

Furnish: Mounting brackets; mounting straps; conduit; LB condulets; conduit fittings; conduit grounding bushings; ground rod with clamp; grounding conductor; cable staples; conduit sealant; wooden stakes (where required); wire labels; hardware.

The Contractor shall be responsible for securing the cabinet from the Central Office Division of Planning Warehouse in Frankfort and transporting it to the installation site. Any existing holes in the cabinet not to be reused shall be covered or plugged to meet NEC requirements.

Install mounting brackets and secure cabinet to pole with mounting straps.

Install a ground rod with clamp. Install grounding conductor in 1-¾" conduit form cabinet to ground rod.

Install one ¾ inch rigid steel conduit with two lb condulets from cabinet to electrical service disconnect box. Install one ¾ inch rigid steel conduit with two LB condulets from cabinet to telephone network interface device box. Make all field wiring connections to the electrical service and/or telephone service, as applicable.

If electrical and/or telephone service are not provided as bid items in the contract, plug conduit on both ends with cap, plumbers putty, conduit sealant, or electrical tape. Mark the location of the buried conduit end(s) with a wooden stake labeled "3/4 in. conduit".

Install specified rigid steel conduit(s) and type LB condulet(s) into the bottom of the cabinet for sensor wire entry. The limit of conduits incidental to "Install Controller Cabinet" is 24 inches beyond the face of the pole.

Wiring in cabinet shall be neat and orderly. Label all wires and cables inside cabinet. KYTC personnel will furnish and install terminal blocks and connect sensors to terminal blocks.

3.11. Junction Box Type 10x8x4

Furnish: Junction box; wood post; conduit fittings; wire labels; hardware.

Where right-of-way allows, locate the junction box such that it is outside the clear zone in accordance with the Roadside Design Guide.

Excavate as required and install wood post(s) to a depth of 18 inches. Install junction box on wood post such that the bottom of the box is 18 inches above the finished grade as shown on the standard detail sheets. Box shall be installed with four (4) 2½ inch wood screws and washers.

Install locknuts to attach conduit to junction box and install a conduit bushing as shown on the standard detail sheets.

Wiring inside box shall be neat and orderly. Label all wires and cables inside box.

3.12. Junction Box Type A, B, or C

Furnish: Junction box, No. 57 aggregate; grounding conductor

Excavate as required and place approximately 12 inches of No. 57 aggregate beneath the proposed junction box to allow for drainage. Install specified junction box type A, B, or C near the edge of pavement, flush with finished grade per the detail sheets. Where required, orient the box so that the dimensions comply with the National Electrical Code. Stub conduits with grounding bushings into junction box at its base to accommodate wires and connect grounding conductor to all grounding bushings. Backfill to existing grade, and restore disturbed area to the satisfaction of the Engineer.

Wiring inside box shall be neat and orderly. Label all wires and cables inside box.

3.13. Loops

Furnish: Wire; saw slot sealant; backer rod; grout; conduit sealant.

The plans and notes specify the approximate location for loop installations. Prior to sawing slots or drilling cores, the Contractor shall meet with a representative of the Division of Planning to verify the precise layout locations on site. Avoid expansion joints and pavement sections where potholes, cracks, or other roadway flaws exist.

Upon completion of this meeting, the Contractor shall measure out and mark the

proposed loop locations with spray paint or chalk such that the saw slots will be parallel and perpendicular to the direction of traffic. Marked lines shall be straight and exact to the locations determined and sized as shown on the plans. Unless indicated otherwise, loops shall be 6 feet by 6 feet square and loops in the same lane shall be spaced 16 feet from leading edge to leading edge.

On resurfacing, rehabilitation, and new construction projects that include new asphalt pavement, the Contractor shall install loops prior to laying the final surface course. On projects with milling and texturing, the Contractor may install the loops prior to or after the milling operation; however, if installed prior to milling, the Contractor shall be responsible for ensuring that the loops are installed at a depth such that the milling operation will not disturb the newly installed loops. The Contractor shall correct damage caused by the milling operations to newly installed loops prior to placement of the final surface course at no additional cost to the Cabinet.

For projects that include the installation of new asphalt and piezoelectric sensors, the Contractor shall mark or otherwise reference all loops installed prior to the final surface course such that the loops can be accurately located when the piezoelectric sensors are installed after placement of the final surface course.

For projects that do not have asphalt surfacing, the Contractor shall install the loops in the surface of the pavement.

The Prime Contractor shall coordinate the installation of loops with the electrical sub-Contractor and the Engineer to ensure correct operation of the completed installation.

The following is a typical step by step procedure for the installation of a loop.

- Carefully mark the slot to be cut, perpendicular to the flow of traffic and centered in the lane.
- Make each saw-cut 3/8-inch wide and at a depth such that the top of the backer rod is a minimum of 2 inches below the surface of rigid (PCC/Concrete) pavement or 4 inches below the surface of asphalt pavement.
- Drill a 1½ inch core hole at each corner and use a chisel to smooth corners to prevent sharp bends in the wire.
- Clean ALL foreign and loose matter out of the slots and drilled cores and within 1 foot on all sides of the slots using a high pressure washer.
- Completely dry the slots and drilled cores and within 1 foot on all sides of the slots using oil-free forced air, torpedo heaters, electric heaters, or natural evaporation, depending on weather conditions. Be very careful not to burn the asphalt if heat is used.
- Measure 9-12 inches from the edge of the paved surface (shoulder break or face of curb) and drill a 1½ inch hole on a 45º angle to the conduit adjacent to the roadway.

- Closely inspect all cuts, cores, and slots for jagged edges or protrusions prior to the placement of the wire. All jagged edges and protrusions shall be ground or re-cut and cleaned again.
- Place the loop wire splice-free from the termination point (cabinet or junction box) to the loop, continue around the loop for four turns, and return to the termination point.
- Push the wire into the saw slot with a blunt object such as a wooden stick. Make sure that the loop wire is pushed fully to the bottom of the saw slot.
- Install conduit sealant to a minimum of 1" deep into the cored 1½ inch hole.
- Apply loop sealant from the bottom up and fully encapsulate the loop wires in the saw slot. The wire should not be able to move when the sealant has set.
- Cover the encapsulated loop wire with a continuous layer of backer rod along the entire loop and home run saw slots such that no voids are present between the loop sealant and backer rod.
- Finish filling the saw cut with non-shrinkable grout per manufacturer's instructions. Alleviate all air pockets and refill low spaces. There shall be no concave portion to the grout in the saw slot. Any excess grout shall be cleaned from the roadway to alleviate tracking.
- Clean up the site and dispose of all waste off the project.
- Ensure that the grout has completely cured prior to subjecting the loop to traffic. Curing time varies with temperature and humidity.

Exceptions to installing loop wire splice-free to the junction box or cabinet may be considered on a case-by-case basis and must be pre-approved by the Engineer. If splices are allowed, they shall be located in a junction box and shall conform to the construction note for Splicing.

If loop lead-in cable (Cable No. 14/1 Pair) is specified, cable shall be installed splice free to the cabinet ensuring that extra cable is left in each junction box or cabinet. All wires and cables shall be labeled in each junction box and cabinet.

Loop inductance readings shall be between 100 and 300 microhenries. The difference of the loop inductance between two loops in the same lane shall be ±20 microhenries. Inductance loop conductors shall test free of shorts and grounds. Upon completion of the project, all loops must pass an insulation resistance test of at least 100 million ohms to ground when tested with a 500 Volt direct current potential in a reasonably dry atmosphere between conductors and ground.

3.14. Maintain and Control Traffic

Furnish (all as required): Drums, traffic cones, barricades used for channelization purposes, delineators, and object markers.

Maintain and Control Traffic shall conform to the plans, the Standard Specifications for Road and Bridge Construction, and the KYTC Department of Highways Standard Drawings.

3.15. Open Cut Roadway

Furnish: Concrete, reinforcing bars.

Excavate trench by sawing and chipping away roadway to dimensions as indicated on the detail sheets. After placing conduit, install concrete and steel reinforcing bars per the *Standard Specifications for Road and Bridge Construction*. Restore any disturbed sidewalk to its original condition.

3.16. Piezoelectric Sensor

Furnish: Piezoelectric sensor and cable; sensor support brackets; saw slot sealant; backer rod; grout; conduit sealant.

The plans and notes specify the approximate location for piezoelectric sensor (piezo) installations. Prior to sawing slots or drilling cores, the Contractor shall meet with a representative of the Division of Planning to verify the final layout on site. Avoid expansion joints and pavement sections where potholes, cracks, or other roadway flaws exist. Roadway ruts at the proposed piezo location shall not be in excess of ½ inch under a 4-foot straight edge.

Install the piezo perpendicular to traffic in the final surface course of the pavement. Locate the sensor in the lane as shown on the site layout drawing. Eleven-foot length sensors shall be centered in the lane.

The following is a typical step by step procedure for the installation of a piezo. Refer specifically to the manufacturer's instructions provided with the sensor prior to installation.

- Carefully mark the slot to be cut, perpendicular to the flow of traffic and properly positioned in the lane.
- It is strongly recommended that a ¾ inch wide diamond blade be used for cutting the slot, or that blades be ganged together to provide a single ¾ inch wide cut. The slot shall be wet cut to minimize damage to the pavement.
- Cut a slot ¾ inch wide (±1/16 inch) by 1 inch minimum deep. The slot should be a minimum of 2 inches longer than the sensor (including the lead attachment). Drop the saw blade an extra ½ inch down on both ends of the sensor. The lead out of the passive cable should be centered on the slot.
- Cut the slot for the passive cable ¼ inch wide and at a depth so that the top of the backer rod is a minimum of 2 inches below the road surface.
- Clean ALL foreign and loose matter out of the slot and within 1 foot on all sides of the slot using a high pressure washer.
- Completely dry the slot and within 1 foot on all sides of the slot using oil-free forced air, torpedo heaters, electric heaters, or natural evaporation, depending on weather conditions. Be very careful not to burn the asphalt if heat is used.

- Measure 9-12 inches from the edge of the paved surface (shoulder break or face of curb) and drill a 1½ inch hole on a 45º angle to the conduit adjacent to the roadway.
- Place strips of 2-4 inch wide tape strips on the pavement along the lengths of both sides of the sensor slot, 1/8 inch away from the slot.
- Wear clean, protective latex (or equivalent) gloves at all times when handling sensors. Visually inspect sensor to ensure it is straight. Check lead attachment and passive cable for cuts, gaps, cracks and/or bare wire. Verify that the correct sensor type and length is being installed by checking the data sheet. Verify there is sufficient cable to reach the cabinet. Piezo lead-in cable shall not be spliced.
- Test the sensor for capacitance, dissipation factor and resistance, according to the directions enclosed with the sensor. Capacitance and dissipation should be within ±20% of the piezo data sheet. Resistance (using the 20M setting) should be infinite. Record the sensor serial number and the test results and label "pre-installation." This information should be stored in the counter cabinet and/or returned to Department Planning personnel.
- Lay the sensor next to the slot and ensure that it is straight and flat.
- Clean the sensor with steel wool or an emery pad and wipe with alcohol and a clean, lint-free cloth.
- Place the installation bracket clips every 6 inches along the length of the sensor.
- Bend the tip of the sensor downward at a 30° angle. Bend the lead attachment end down at a 15° angle and then 15° back up until level (forming a lazy Z).
- Place the sensor in the slot, with the brass element 3/8 inch below the road surface along the entire length. The tip of the sensor should be a minimum of 2 inches from the end of the slot and should not touch the bottom of the slot. The top of the plastic installation bracket clips should be 1/8 inch below the surface of the road. The lead attachment should not touch the bottom or sides of the slot. Ensure the sensor ends are pushed down per the manufacturer's instructions.
- Visually inspect the length of the sensor to ensure it is at uniform depth along its length and it is level (not twisted, canted or bent).
- On the passive cable end, block the end of the slot approximately 3-5 inches beyond the end of the lead attachment area creating an adequate "dam" so that the sensor grout does not flow out.
- Use one bucket of sensor grout per piezo installation. Overfill the slot with sensor grout and allow to cure for a minimum of 10 minutes before continuing with the installation. Ensure that sensor grout fills around and beneath the sensor completely and that there is not a trough on top.
- Remove the tape along the sides of the saw slot when the adhesive starts to cure.
- Carefully remove the dam from the end of the sensor.
- Route the lead-in cable through the saw slot
- Install conduit sealant to a minimum of 1" deep into the cored 1½ inch hole.
- Cover the lead-in cable with encapsulant, backer rod, and grout.
- If necessary, after the grout has hardened, grind with an angle grinder until the profile is a 1/16 inch mound. There shall be no concave portion to the mound.

- Clean up the site and dispose of all waste off the project.
- Ensure that the sensor grout has completely cured prior to subjecting the sensor to traffic. Curing time will vary with temperature and humidity.

Upon installation, test the sensor for capacitance, dissipation factor and resistance, according to the directions enclosed with the sensor. Capacitance and dissipation should be within +20% of the piezo data sheet. Resistance (using the 20M setting) should be infinite. Perform a functional test of the piezo with an oscilloscope to ensure that the sensor is generating a proper response to the passage of vehicles.

Record the sensor serial number and the test results and label "post-installation." This information should be stored in the counter cabinet and/or returned to Department Planning personnel.

3.17. Pole – Wooden

Furnish: Pole; anchoring equipment (as required); hardware (as required).

Excavate and install wood pole to a minimum depth of one-sixth the total pole height. Place backfill material in hole and compact until flush with existing grade. Install guy wire, guy guard, anchor, anchor rod, and strand vise, if necessary. Anchor shall be a minimum of one-third the pole height from the face of the pole. Provide temporary erosion control, seeding, protection and restoration of disturbed areas to the satisfaction of the Engineer.

3.18. Removal of Existing Equipment

The Contractor shall remove existing materials (including but not limited to: poles, anchors, cabinets, junction boxes, conduit and wire) not to be reused. Contractor shall dispose of all removed materials off the project. All materials and labor necessary for the removal of existing equipment shall be considered incidental to other bid items.

3.19. Signs

Furnish: Signs; sign standards; hardware.

Construction of **s**igns shall conform to the *Standard Specifications for Road and Bridge Construction.*

3.20. Splicing

Furnish: Splice kit; solder.

These notes describe the splicing process (if permitted) and are not intended to grant permission to splice. Permission to splice shall be determined by the Division of Planning and the locations shall be shown on the layout sheet. If splicing is needed but not shown on the layout sheet, the Contractor shall receive prior written approval from the Division of Planning.

All splices shall conform to the provisions of the NEC.

Splices for loop and loop lead-in wire shall be twisted and soldered. Abrade the outer jacket of both wires to promote good adhesion and prevent capillary leak paths. Seal the splice with an electrical sealing resin. Spliced loop conductors shall test free of shorts and unauthorized grounds and shall have an insulating resistance of at least 100 megohms when tested with a 500 volt direct current potential in a reasonably dry atmosphere between conductors and ground.

For piezos, the same type coax cable, supplied by the manufacturer, shall be used to splice to the sensor's lead-in cable. Cables shall be soldered. Abrade the outer jacket of both cables to promote good adhesion and prevent capillary leak paths. Seal the splice with an electrical sealing resin. Spliced piezo cables shall be tested and have a minimum resistance of 20 megohms, a maximum dissipation factor of 0.03, a capacitance within the manufacturer's recommended range based upon the length of additional cable. A functional test of the piezo shall be performed to ensure that the sensor is generating a proper response to the passage of vehicles.

3.21. Telephone Service

Furnish: Conduit; conduit fittings; grounding bushings; LB condulets (as required); weatherhead; conduit straps; hardware; conduit sealant.

The Contractor shall contact the local telephone company for the installation of telephone service to the site. Telephone Company will install service to a telephone network interface device (NID) on the pole.

Install rigid ¾ inch conduit with weatherhead from the cabinet to 72 inches above the finished grade and install conduit straps every 30 inches on center. Install telephone cable with and RJ-11 modular plug from NID to cabinet. Leave eight feet of additional telephone cable coiled inside cabinet.

The limit of conduit incidental to "Install Telephone Service" for a pad mounted cabinet is 24 inches beyond face of service pole.

3.22. Trenching and Backfilling

Furnish: Warning tape; seed mix type I; cereal rye or German foxtail-millet; mulch; concrete (as required); asphalt (as required).

Excavate trench and provide required cover as shown on the standard detail sheets. After placing conduit, backfill material shall be placed and compacted in lifts of 9 inches or less. Install warning tape as shown on the detail sheet. Provide temporary erosion control, seeding, protection and restoration of disturbed areas to the satisfaction of the Engineer. This item shall include concrete, asphalt or approved replacement material for sidewalks, curbs, roadways, etc. (if required).

3.23. Wiring

Furnish: Wire; wire labels; spade tongue wire terminals (as required).

Installation of all wiring shall conform to the NEC. Permanent identification numbers shall be affixed to all wires in all junction boxes and cabinets (see Layout(s) for loop and piezo numbers).

Additional lengths of each loop and piezo sensor wire shall be neatly coiled in all cabinets and junction boxes as follows:

Enclosure Type	Additional length of each wire
Galvanized Steel Cabinet	2’
Pad Mount Cabinet (332)	8’
Pole Mount Cabinet (336)	4’
Junction Box Type 10x8x4	2’
Junction Box Type A, B, or C	2’

3.24. Wood Post

Furnish: Wood post; concrete (as required); seed mix type I; cereal rye or German foxtail-millet; mulch.

Excavate hole to specified depth and place concrete, if required. Install post, backfill to existing grade, and tamp backfill. Provide temporary erosion control, seeding, protection and restoration of disturbed areas to the satisfaction of the Engineer.

4. BID ITEM NOTES AND METHOD OF MEASUREMENT FOR PAYMENT

Only the bid items listed will be measured for payment. All other items required to complete the vehicle detection installation shall be incidental to other items of work. Payment at the contract unit price shall be full compensation for all materials, labor, equipment and incidentals to furnish and install these items.

4.1. Bore and Jack Pipe – 2”

Bore and jack pipe – 2” shall be furnished, installed, and measured for payment per the *Standard Specifications for Road and Bridge Construction*.

4.2. Conduit

Conduit shall include furnishing and installing specified conduit in accordance with the specifications. This item shall include conduit fittings, bodies, boxes, weatherheads, expansion joints, couplings, caps, conduit sealant, electrical tape, clamps, bonding straps and any other necessary hardware. Conduit will be measured in linear feet.

4.3. Electrical Service

Electrical Service shall include furnishing and installing all necessary materials and payment of all fees toward the complete installation of an electrical service which has passed all required inspections. Incidental to this item shall be furnishing and installing:

- Meter-base per utility company’s specifications
- Service disconnect panel per utility company’s specifications
- Meter base and service disconnect entrance hubs, waterproof
- Service entrance conductors
- Rigid steel conduit
- Rigid steel conduit fittings
- Conduit straps
- Weatherhead
- Duplex GFCI receptacle, 120-volt, 20-amp
- Ground rod with clamp
- Grounding conductor

Also incidental to this item shall be any necessary clearing of right of way for the electrical service drop.

Electrical service will be measured in individual units each.

4.4. Flashing Arrow

Flashing Arrow shall be furnished, installed, and measured for payment per the *Standard Specifications for Road and Bridge Construction.*

4.5. Galvanized Steel Cabinet

Galvanized Steel Cabinet shall include furnishing and installing galvanized steel cabinet on post as specified. Incidental to this item shall be furnishing and installing grounding hardware, and any necessary post/pole mounting hardware. Also incidental to this item shall be furnishing and installing the required number of terminal blocks and connection of all

sensors to the terminal blocks. Galvanized Steel Cabinet will be measured in individual units each.

4.6. Install Pad Mount Enclosure

Install Pad Mount Enclosure shall include installing a Department-furnished enclosure as specified on the detail sheets.

This item shall include obtaining the enclosure from KYTC and transporting it to the installation site and furnishing and installing the following:

- Concrete foundation (including any excavation necessary)
- Anchor bolts, lock washers, and nuts
- Conduit
- Conduit fittings (including grounding bushings)
- Weatherhead
- Terminal Strip(s)
- Ground rod with clamp
- Grounding conductor

Install Pad Mount Enclosure will be measured in individual units each.

4.7. **Install Controller Cabinet**

Install Controller Cabinet shall include installing a Department-furnished cabinet as specified on the detail sheets.

This item shall include obtaining the cabinet from KYTC and transporting it to the installation site and furnishing and installing the following:

- Conduit
- Conduit Fittings
- Terminal Strip(s)
- Ground rod with clamp
- Grounding conductor

Install Controller Cabinet will be measured in individual units each.

4.8. Junction Box Type 10" x 8" x 4"

Junction Box Type 10”x8”x4” shall include furnishing and installing specified junction box in accordance with the specifications. This item shall include connectors, splice sleeves, conduit fittings, mounting materials and any other items required to complete the installation. Incidental to this item shall be furnishing and installing specified post (wood, channel, metal, etc.) as required for the installation. Junction Box Type 10”x8”x4” will be measured in individual units each.

4.9. Junction Box Type A, B, or C

Junction Box Type A, B, or C shall include furnishing and installing specified junction box in accordance with the specifications. This item shall include excavation, furnishing and installing #57 aggregate, backfilling around the box, and restoration of disturbed areas to

the satisfaction of the Engineer. Incidental to this item shall be furnishing and installing a grounding conductor bonding all conduit grounding bushings in the box. Junction Box Type A, B, or C will be measured in individual units each.

4.10. Loop Saw Slot and Fill

Loop Saw Slot and Fill shall include sawing and cleaning saw slots and furnishing and installing conduit sealant, loop sealant, backer rod, grout, or other specified material. Loop Saw Slot and Fill will be measured in linear feet of sawed slot.

4.11. Maintain and Control Traffic

Maintain and Control Traffic shall be measured for payment per the *Standard Specifications for Road and Bridge Construction.*

4.12. Open Cut Roadway

Open Cut Roadway shall include excavating trench (sawing and chipping roadway) to dimensions as indicated on the detail sheets and furnishing and placing concrete, steel reinforcing bars, and asphalt. This item also includes restoring any disturbed sidewalk to its original condition. Open Cut Roadway will be measured in linear feet.

4.13. Piezoelectric Sensor

Piezoelectric sensor (piezo) shall include sawing and cleaning saw slots and furnishing and installing piezo in accordance with the specifications. This item shall include furnishing and installing lead-in wire, conduit sealant, encapsulation material, backer rod, grout, testing, and accessories. Piezo will be measured in individual units each.

4.14. Pole – 35’ Wooden

Pole – 35’ Wooden shall include excavation, furnishing and installing specified wood pole, backfilling and restoring disturbed areas to the satisfaction of the Engineer. Incidental to this item shall be furnishing and installing guy wire, anchor and anchor rod, strand vise, and guy guard, if specified.

Pole – 35’ Wooden will be measured in individual units each.

4.15. Signs

Signs shall be furnished, installed, and measured for payment per the *Standard Specifications for Road and Bridge Construction.*

4.16. Telephone Service

Telephone Services shall include furnishing and installing all necessary materials and payment of all fees toward the complete installation of a telephone service, which has passed all required inspections. Incidental to this item shall be furnishing and installing:

- Telephone cable with an RJ-11 modular plug
- Rigid steel conduit
- Rigid steel conduit fittings
- Conduit straps
- Weatherhead

Telephone service will be measured in individual units each.

4.17. Trenching and Backfilling

Trenching and Backfilling shall include excavation, warning tape, backfilling, temporary erosion control, seeding, protection and restoration of disturbed areas to original condition. This item shall include concrete, asphalt or approved replacement material for sidewalks, curbs, roadways, etc. (if required). Trenching and backfilling will be measured in linear feet.

4.18. Wire or Cable

Wire or cable shall include furnishing and installing specified wire or cable within saw slot, conduit, junction box, cabinet, or overhead as indicated on the detail sheets. Incidental to this item shall be the labeling of all wires and cables in each junction box, cabinet and splice box, and furnishing and installing other hardware required for installing cable. Wire or Cable will be measured in linear feet.

4.19. Wood Post

Wood Post shall include furnishing and installing wood post as specified. This item shall include excavation, furnishing and placing concrete (if required), backfilling around the post, and restoration of disturbed areas to the satisfaction of the engineer. Wood Post will be measured in individual units each.

Special Note For Fixed Completion Date and Liquidated Damages

Contrary to Section 108.09, Liquidated Damages of $5,000 per calendar day will be assessed for each day work remains uncompleted beyond the Specified Completion Date. This project has a Fixed Completion Date of September 30, 2013.

In addition to the Liquidated Damages specified above, Liquidated Damages in the following amounts will be charged when a lane closure remains in place during a prohibited period outlined in the Traffic Control Plan, excluding delays caused by inclement weather:

Mainline:	$2,500 for the first hour
	$10,000 for the second hour
	$20,000 any additional hour
Ramps:	$4,000 for the first hour
	$8,000 any additional hour

These hourly disincentives will still be in effect after the Fixed Completion Date of September 30, 2013 and will be charged in addition to the $5,000 per calendar day if warranted. If work is delayed by inclement weather, the minimum work required to allow removal of the lane closure, as directed by the Engineer, shall be resumed immediately as soon as weather permits or the Department will begin to assess Liquidated Damages as specified herein.

Contrary to Section 108.09 of the Standard Specifications, **the disincentive fee will be charged during those periods when seasonal limitations of the Contract prohibit the Contractor from working on a controlling item or operation. This includes the months from December through March.**

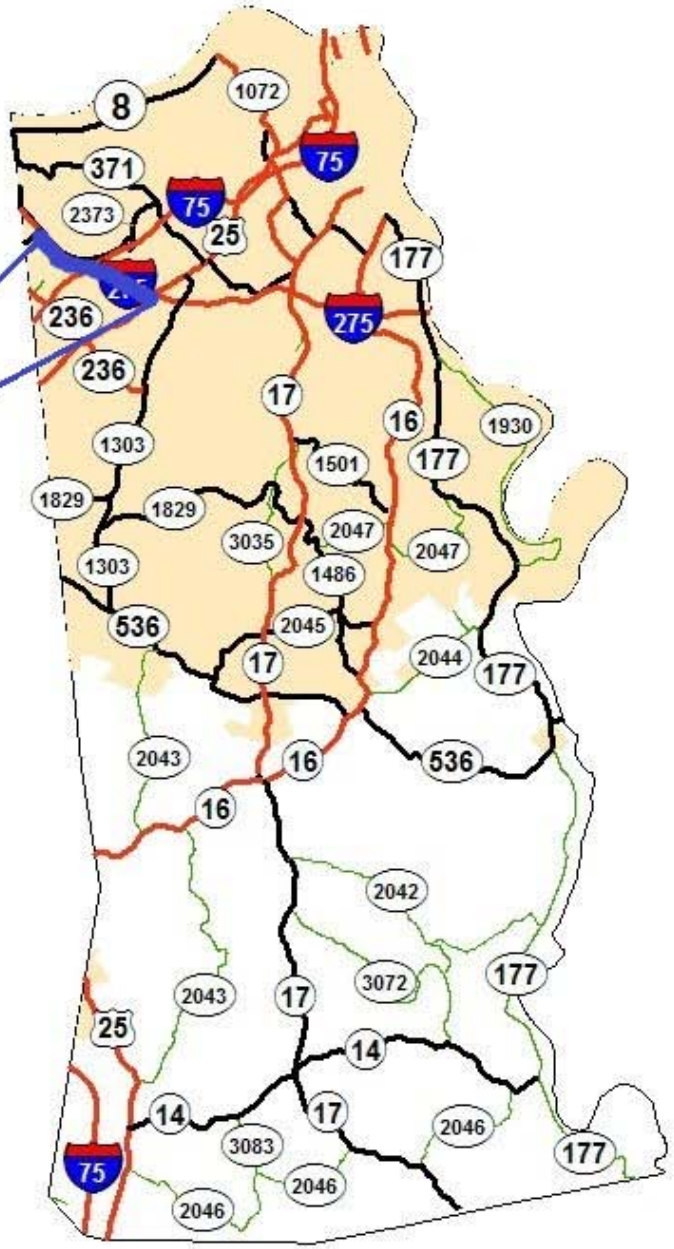
All liquidated damages will be applied cumulatively.

All other applicable portions of Section 108 apply.

Kentucky
UNBRIDLED SPIRIT

DEPARTMENT OF HIGHWAYS
MAP OF
KENTON COUNTY

FD04 059 0275 082-084
FD04 059 0275 000-002

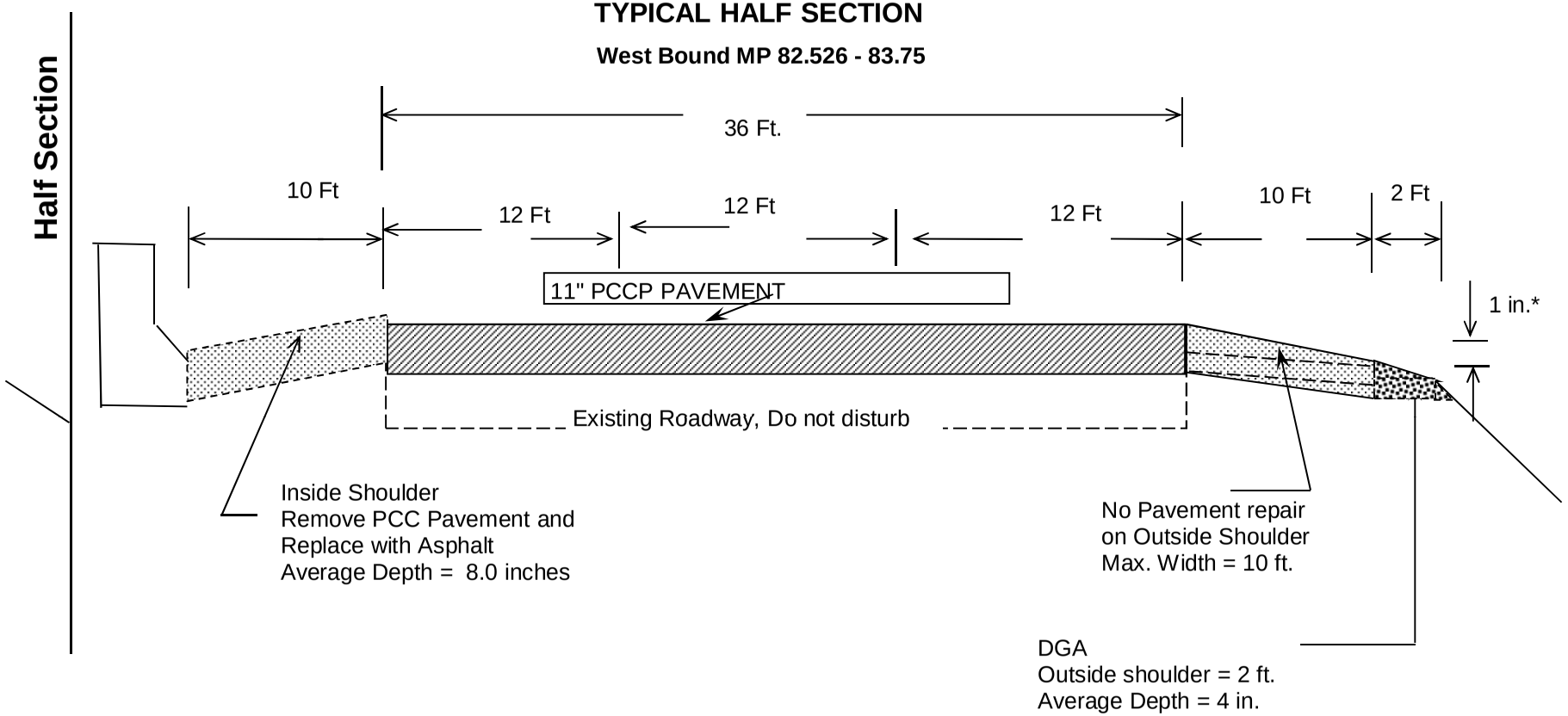


KENTON COUNTY

FD05 059 0275 000-002
FD04 059 0275 084-086

TYPICAL HALF SECTION

West Bound MP 82.526 - 83.75



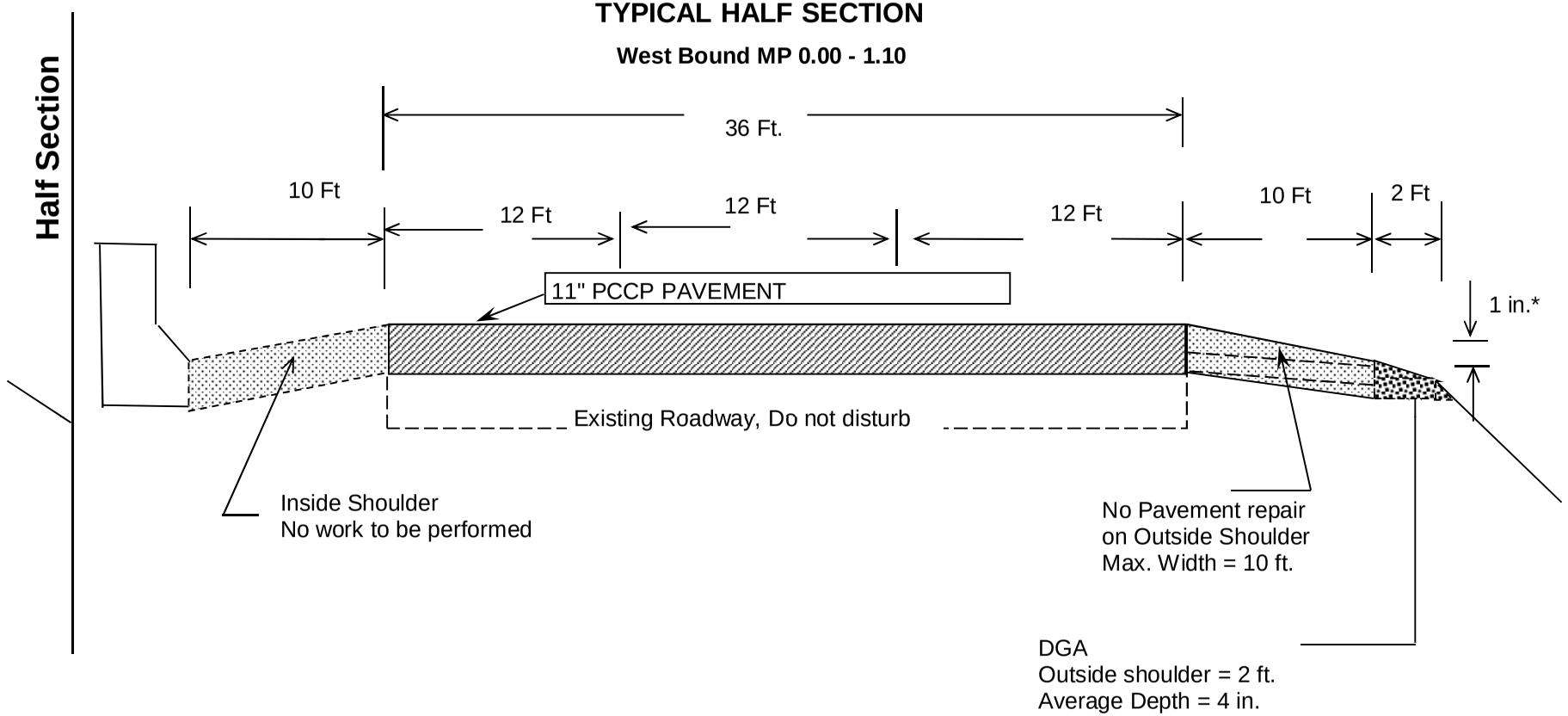
***Where Existing Site Conditions Permit**

KENTON COUNTY

FD05 059 0275 000-002
FD04 059 0275 084-086

TYPICAL HALF SECTION

West Bound MP 0.00 - 1.10



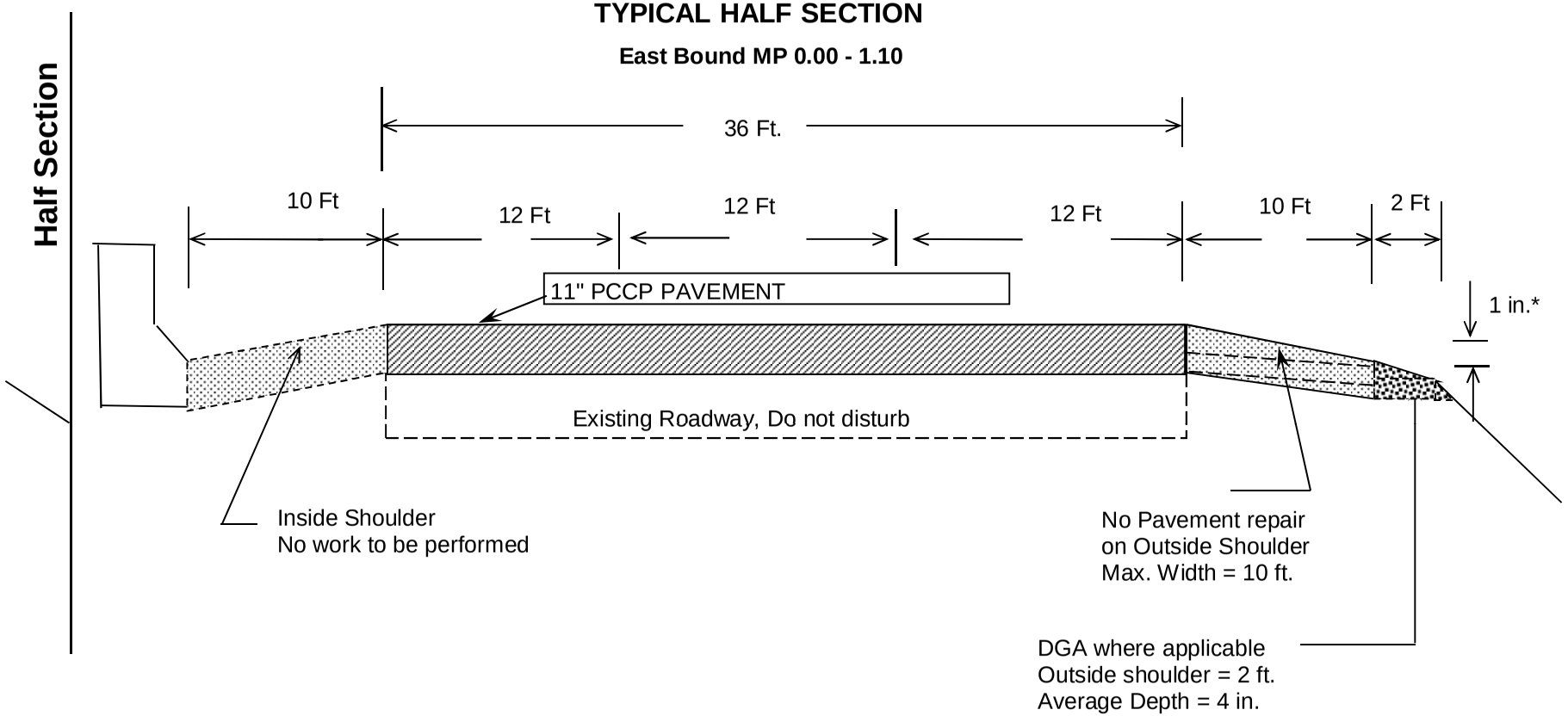
***Where Existing Site Conditions Permit**

KENTON COUNTY

FD04 059 0275 000-002

TYPICAL HALF SECTION

East Bound MP 0.00 - 1.10



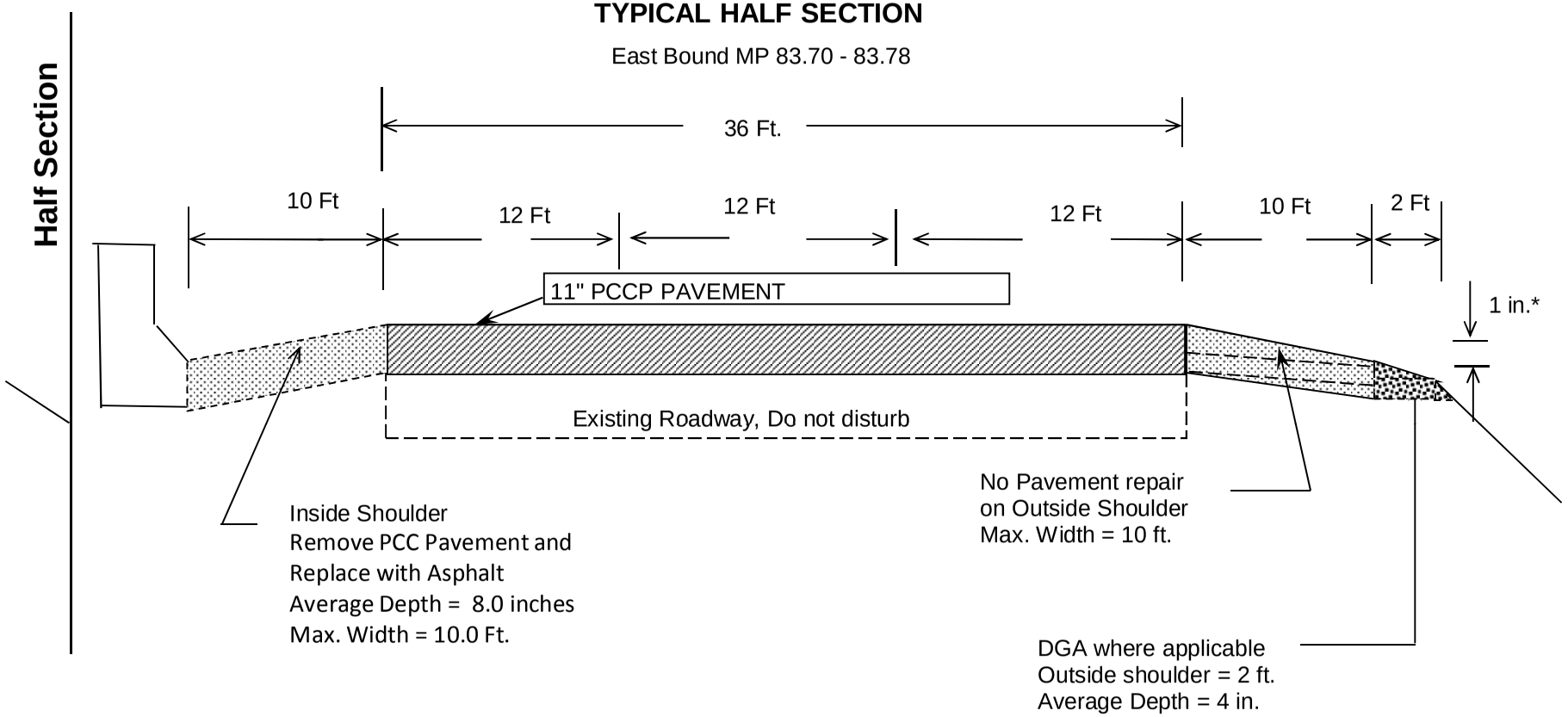
***Where Existing Site Conditions Permit**

KENTON COUNTY

FD04 059 0275 000-002
FD04 059 0275 084-086

TYPICAL HALF SECTION

East Bound MP 83.70 - 83.78



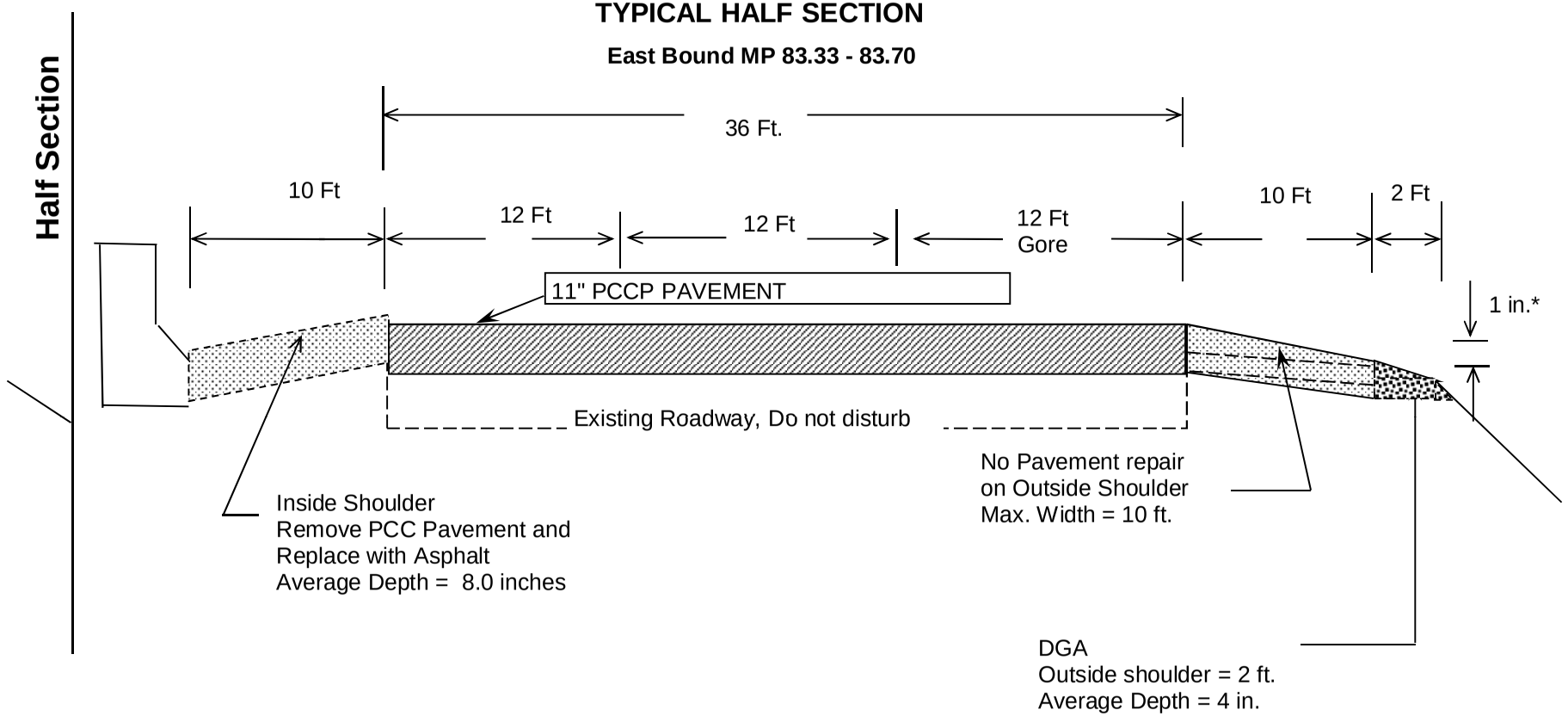
***Where Existing Site Conditions Permit**

KENTON COUNTY

FD05 059 0275 000-002
FD04 059 0275 084-086

TYPICAL HALF SECTION

East Bound MP 83.33 - 83.70



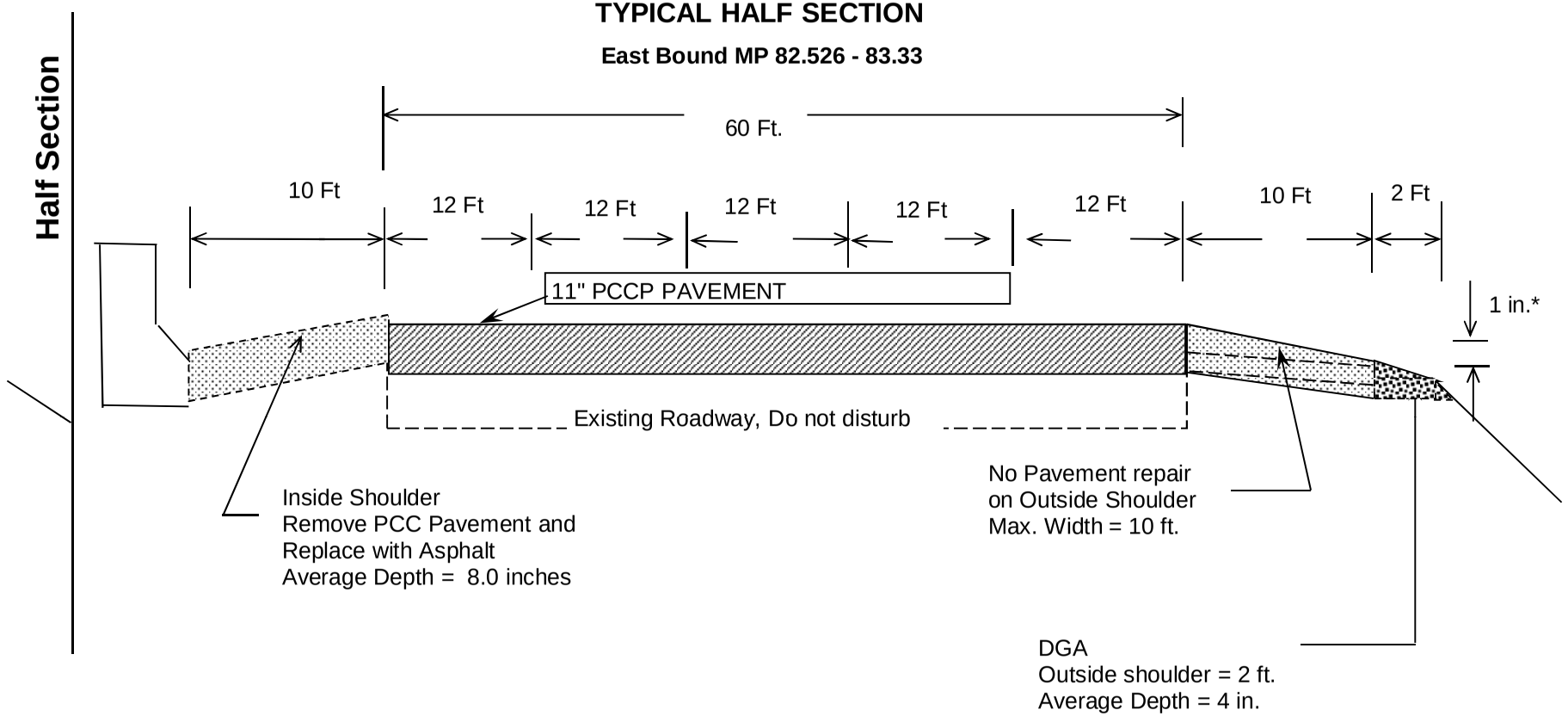
***Where Existing Site Conditions Permit**

KENTON COUNTY

FD05 059 0275 000-002
FD04 059 0275 084-086

TYPICAL HALF SECTION

East Bound MP 82.526 - 83.33



***Where Existing Site Conditions Permit**

KENTON CO. I-275 m.p. 82.96
STATION 805
FIGURE 1

SITE LOCATION IS APPROXIMATE AND WILL BE DETERMINED IN THE FIELD AND APPROVED BY DIVISION OF PLANNING PERSONNEL PRIOR TO ANY CONSTRUCTION.

ALL LOOPS SHALL BE 6'X6' SQUARE AND SHALL BE INSTALLED 16' FROM LEADING EDGE TO LEADING EDGE AS SHOWN. PIEZOELECTRIC SENSORS (PIEZOS) SHALL BE INSTALLED 5' FROM THE EDGE OF LOOPS WITH THE EDGE OF EACH PIEZO FLUSH WITH THE EDGE OF THE CORRESPONDING DRIVING LANE. LOOPS AND PIEZOS SHALL BE INSTALLED SPLICE-FREE TO THE CABINET AND A MINIMUM OF 2' OF WIRE FOR EACH SENSOR SHALL BE COILED INSIDE EACH JUNCTION BOX AND CABINET. ALL LOOPS AND PIEZOS SHALL BE LABELED IN ALL JUNCTION BOXES AND CABINET. DIVISION OF PLANNING PERSONNEL WILL CONNECT THE LOOPS AND PIEZOS INSIDE THE CABINET.

INSTALL ONE (1) 1¼" CONDUIT FROM EACH SAW SLOT TO NEAREST JUNCTION BOX.

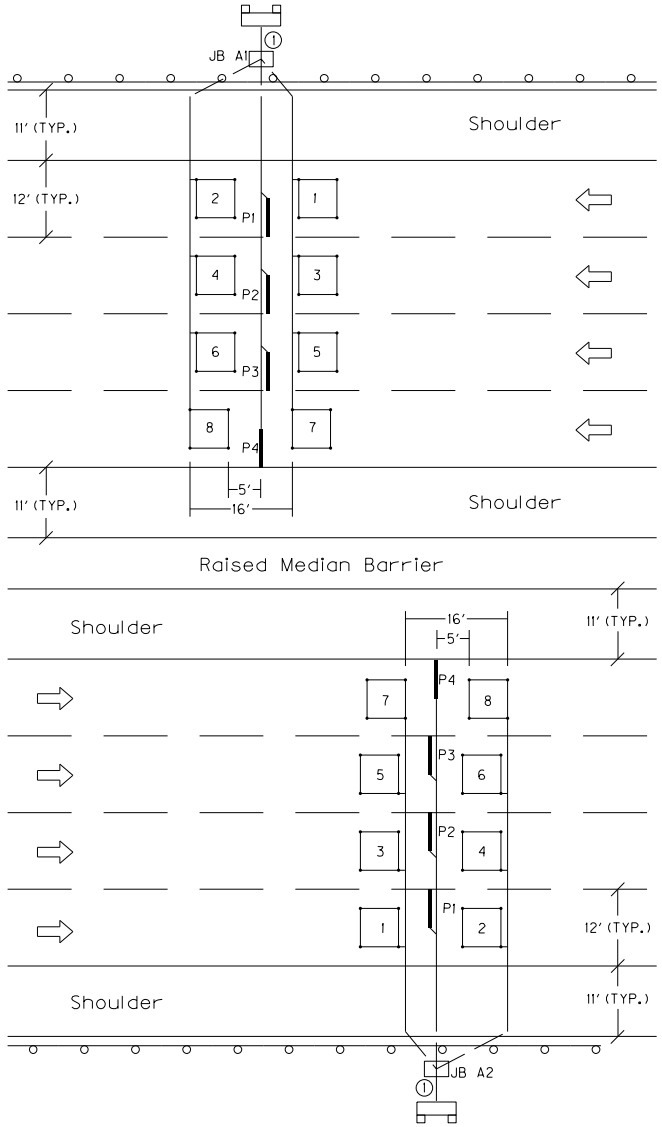
INSTALL TWO (2) TYPE A JUNCTION BOXES (JB A1 AND A2).

INSTALL TWO (2) 20"X20"X8" CABINETS MOUNTED TO TWO (2) WOOD POSTS (EACH).

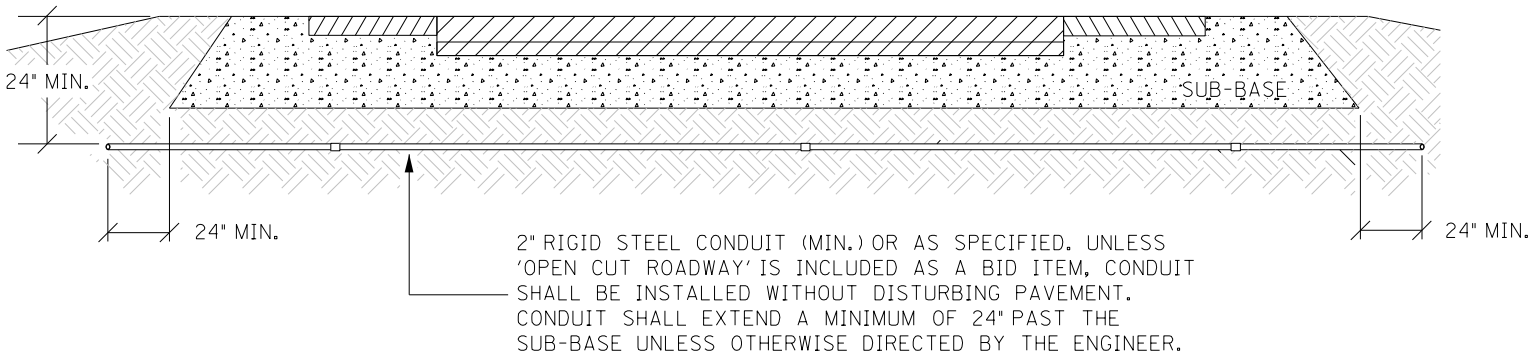
REMOVE ALL EXISTING TYPE A JUNCTION BOXES, CONDUIT, WIRE, POSTS AND CABINETS FROM THE PROJECT.

CODED NOTE:

① INSTALL ONE (1) 2" CONDUIT.



SCALE 1"=30'

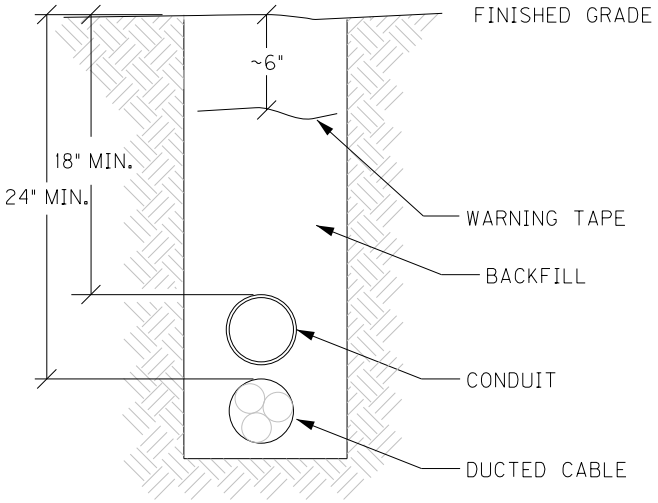


CONDUIT UNDER PAVEMENT

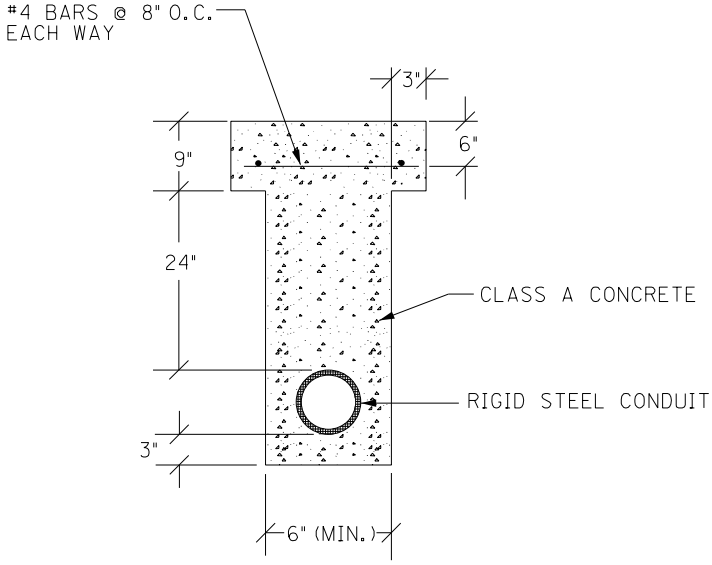
TOTAL TRENCH WIDTH SHALL BE 3" (NOM.) WIDER THAN THE SUM OF THE OUTSIDE DIAMETER(S) OF THE CONDUIT(S) INSTALLED. CONDUIT(S) SHALL BE CENTERED IN TRENCH.

CONTRACTOR SHALL PLACE BACKFILL IN LIFTS (9" MAX.) COMPACT BACKFILL, AND RESTORE DISTURBED AREA TO THE SATISFACTION OF THE ENGINEER

CONTRACTOR SHALL INSTALL UNDERGROUND UTILITY WARNING TAPE ABOVE CONDUIT AS SHOWN.



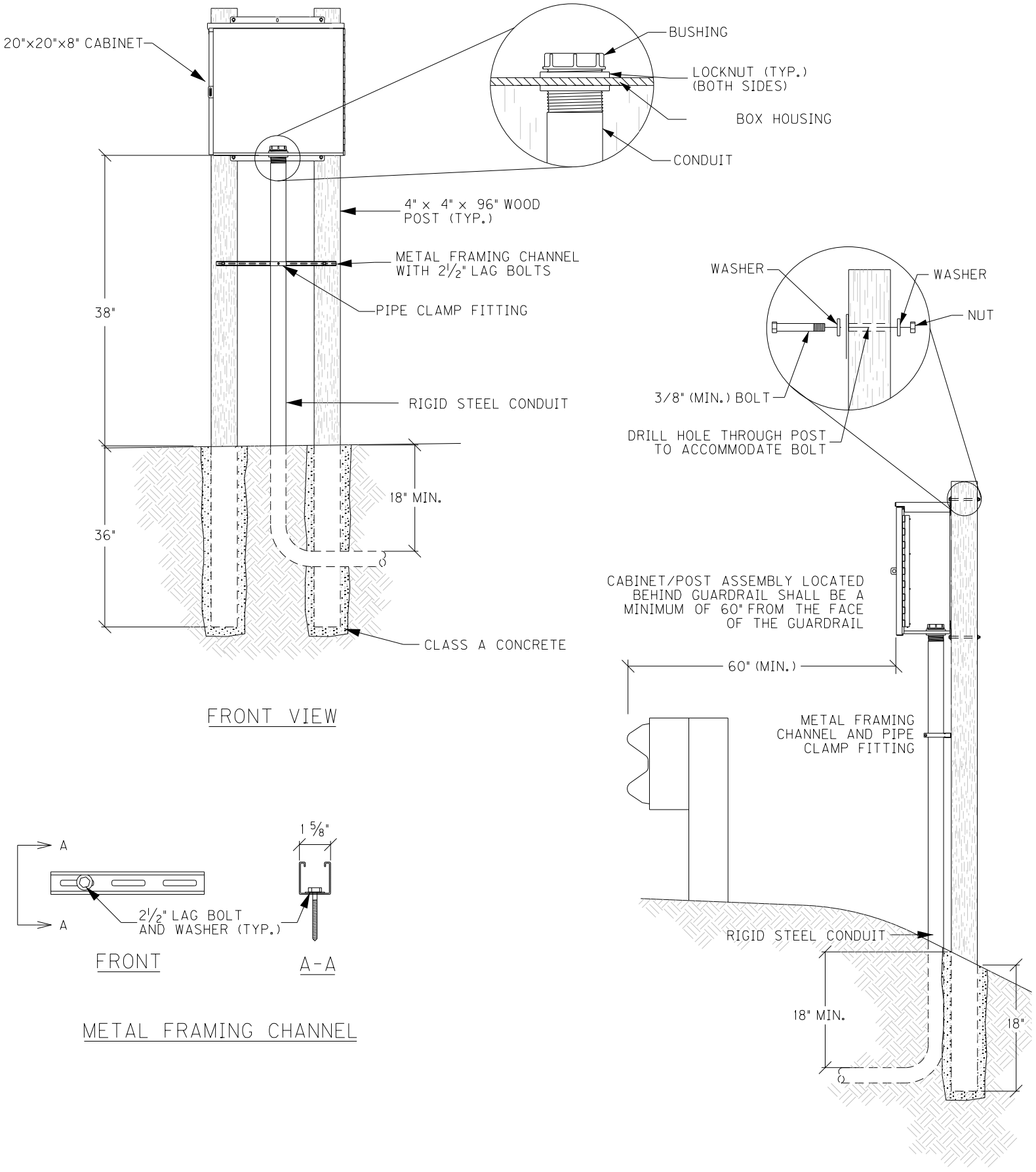
CONDUIT TRENCH



OPEN CUT PAVEMENT DETAIL

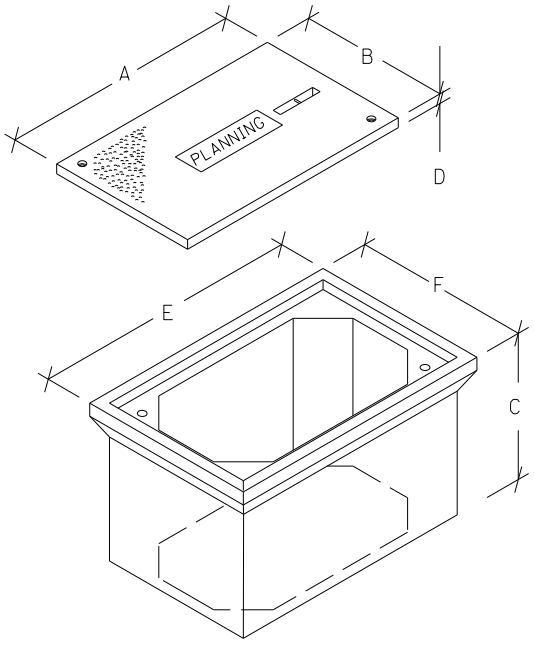
CONDUIT INSTALLATION

NOT TO SCALE



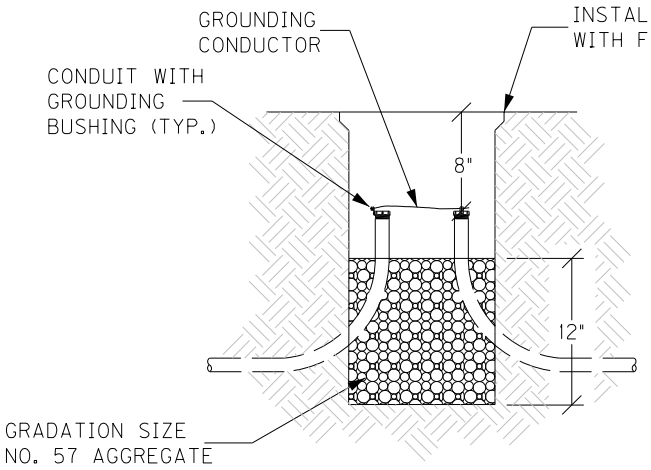
GALVANIZED STEEL CABINET
DOUBLE POST ASSEMBLY

NOT TO SCALE



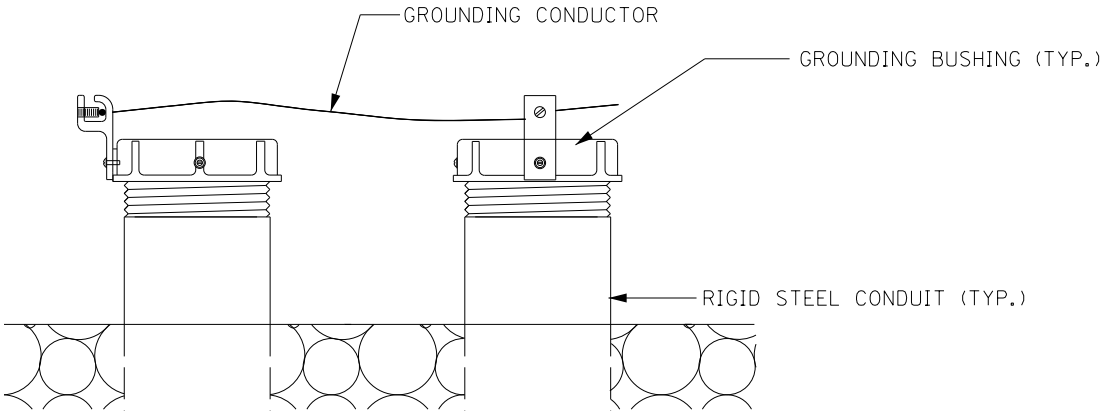
JUNCTION BOX DIMENSIONS (NOMINAL)						
	A	B	C	D*	E	F
TYPE A	23"	14"	18"	2"	25"	16"
TYPE B	18"	11"	12"	1¾"	20"	13"
TYPE C	36"	24"	30"	3"	38"	26"

* MINIMUM
STACKABLE BOXES ARE PERMITTED



WHERE REQUIRED, JUNCTION BOX SHALL BE ORIENTED SUCH THAT THE DIMENSIONS COMPLY WITH THE NATIONAL ELECTRICAL CODE.

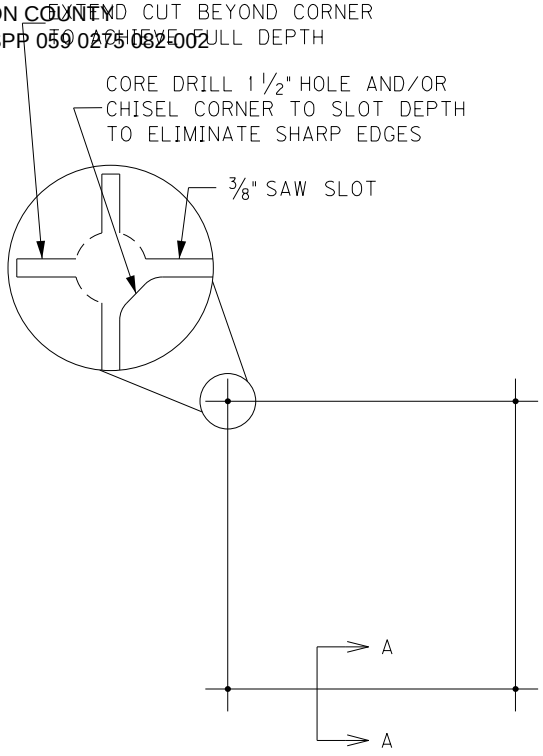
ELEVATION



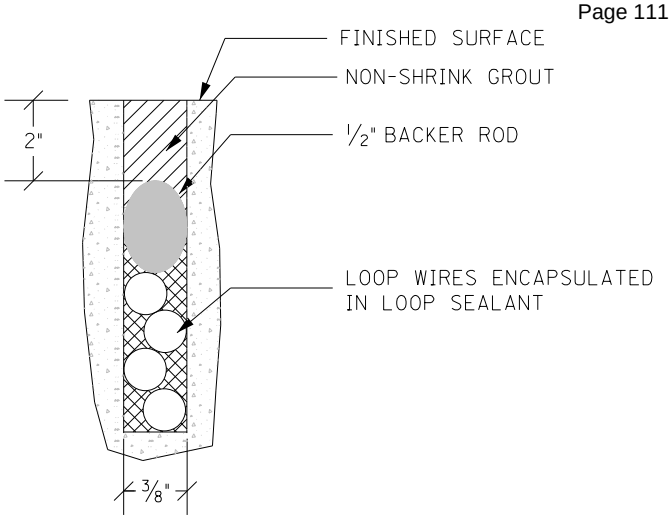
GROUNDING DETAIL

JUNCTION BOX - TYPE A, TYPE B, TYPE C

NOT TO SCALE



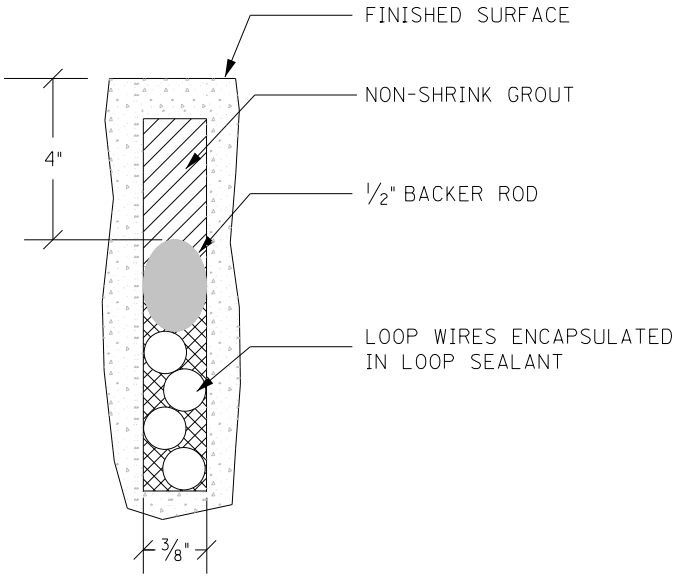
SAW CUT PLAN



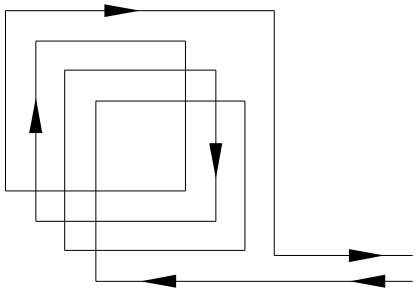
SECTION A-A (CONCRETE)

UNLESS SPECIFIED OTHERWISE, ALL LOOPS SHALL BE 6' x 6' SQUARE, CENTERED IN EACH LANE, WITH FOUR TURNS OF 14 AWG LOOP WIRE.

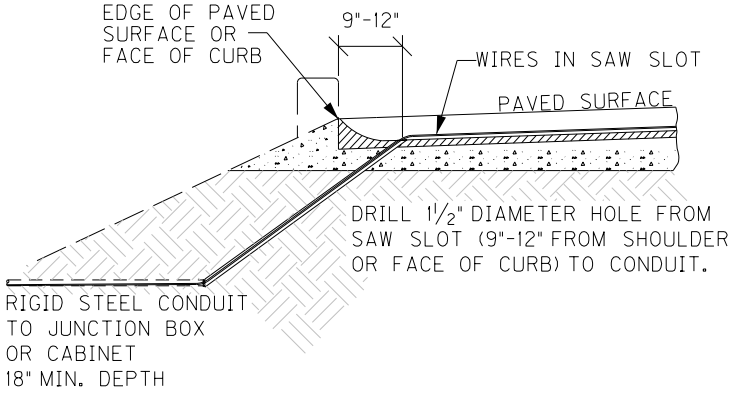
ADJACENT SAW SLOTS SHALL BE A MINIMUM OF 12" APART.



SECTION A-A (ASPHALT)



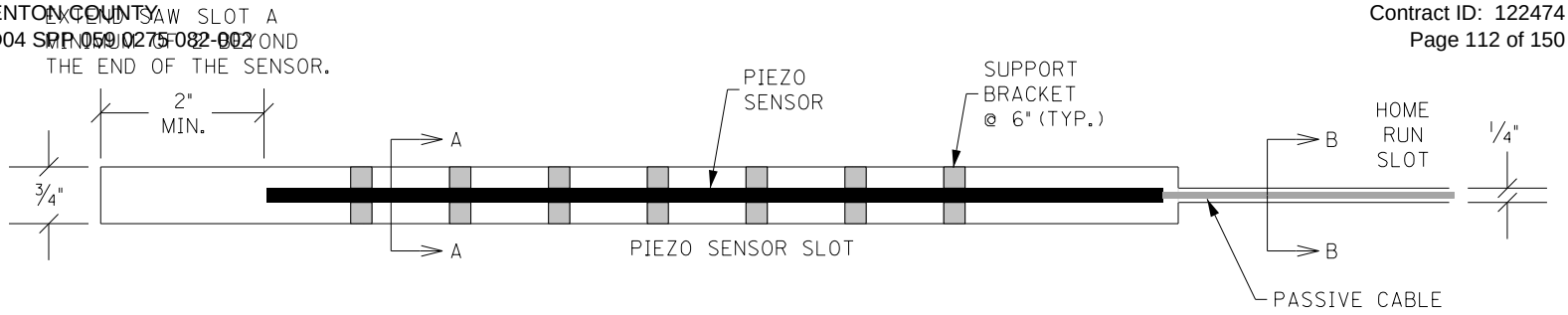
WIRING PLAN



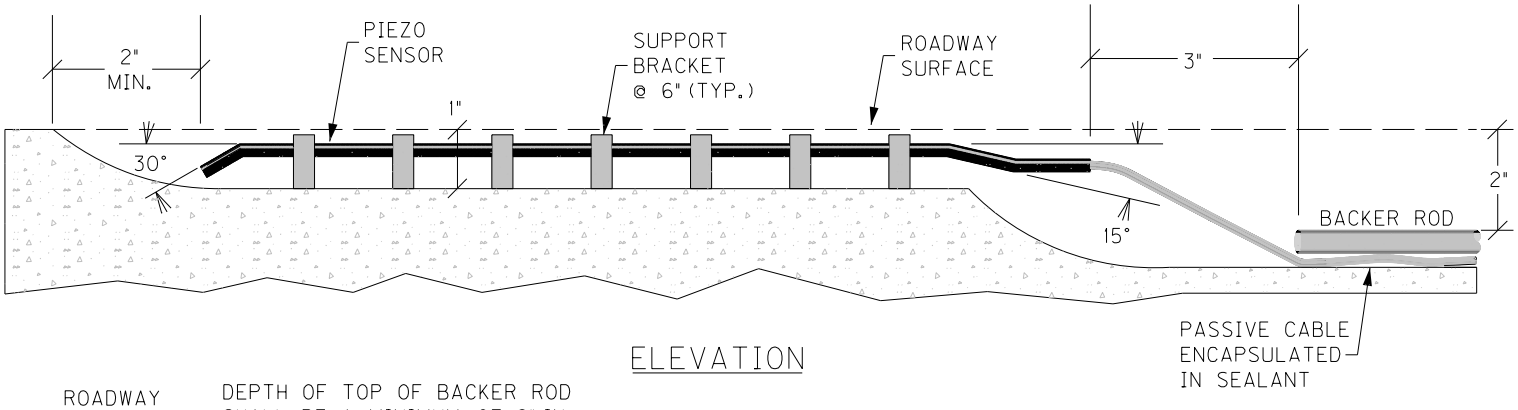
SAW SLOT EDGE OF PAVEMENT TRANSITION

INDUCTIVE LOOP DETECTOR

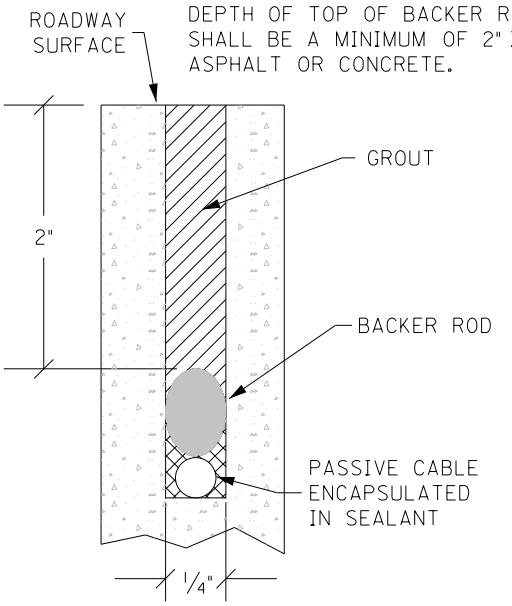
NOT TO SCALE



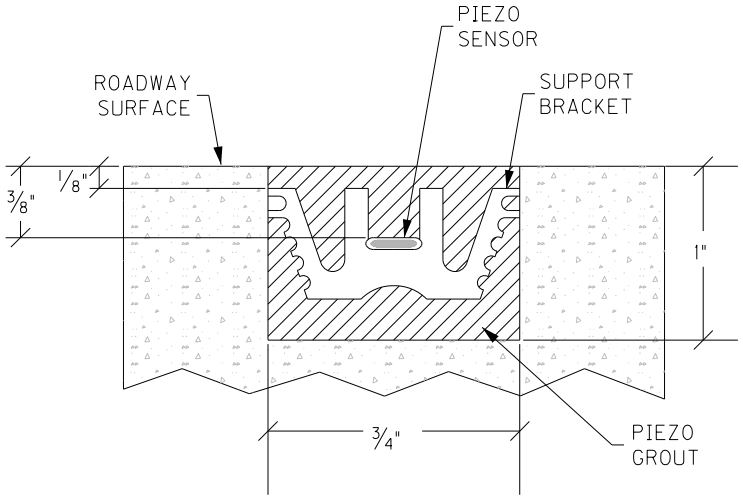
PLAN



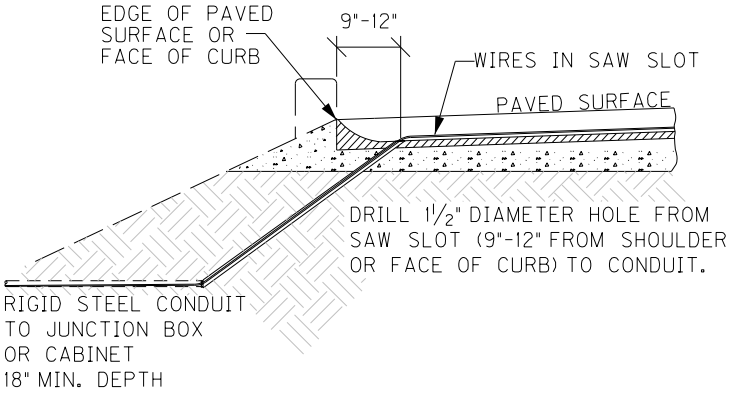
ELEVATION



SECTION B-B



SECTION A-A



SAW SLOT EDGE OF PAVEMENT TRANSITION

PIEZOELECTRIC SENSOR INSTALLATION

NOT TO SCALE

PART II

SPECIFICATIONS AND STANDARD DRAWINGS

SPECIFICATIONS REFERENCE

Any reference in the plans or proposal to previous editions of the *Standard Specifications for Road and Bridge Construction* and *Standard Drawings* are superseded by *Standard Specifications for Road and Bridge Construction, Edition of 2012* and *Standard Drawings, Edition of 2012 with the 2012 Revision.*

Supplemental Specifications to the
Standard Specifications for Road and Bridge Construction, 2012 Edition
Effective with the December 14, 2012 Letting

Subsection: **Revision:**	206.04.01 Embankment-in-Place. Replace the fourth paragraph with the following: The Department will not measure **suitable** excavation included in the original plans that is disposed of for payment and will consider it incidental to Embankment-in-Place.
Subsection: **Revision:**	213.03.02 Progress Requirements. Replace the last sentence of the third paragraph with the following: Additionally, the Department will apply a penalty equal to the liquated damages when all aspects of the work are not coordinated in an acceptable manner within 7 calendar days after written notification.
Subsection: **Part:** **Number:** **Revision:**	402.03.02 Contractor Quality Control and Department Acceptance. D) Testing Responsibilities. 4) Density. Replace the second sentence of the Option A paragraph with the following: Perform coring by the end of the following work day.
Subsection: **Revision:**	403.02.10 Material Transfer Vehicle (MTV). Replace the first sentence with the following: In addition to the equipment specified above, provide a MTV with the following minimum characteristics:
Subsection: **Revision:**	412.02.09 Material Transfer Vehicle (MTV). Replace the paragraph with the following: Provide and utilize a MTV with the minimum characteristics outlined in section 403.02.10.
Subsection: **Revision:**	412.03.07 Placement and Compaction. Replace the first paragraph with the following: Use a MTV when placing SMA mixture in the driving lanes. The MTV is not required on ramps and/or shoulders unless specified in the contract. When the Engineer determines the use of the MTV is not practical for a portion of the project, the Engineer may waive its requirement for that portion of pavement by a letter documenting the waiver.
Subsection: **Revision:**	412.04 MEASUREMENT. Add the following subsection: 412.04.03. Material Transfer Vehicle (MTV). The Department will not measure the MTV for payment and will consider its use incidental to the asphalt mixture.
Subsection: **Part:** **Number:** **Revision:**	606.03.17 Special Requirements for Latex Concrete Overlays. A) Existing Bridges and New Structures. 1) Prewetting and Grout-Bond Coat. Add the following sentence to the last paragraph: Do not apply a grout-bond coat on bridge decks prepared by hydrodemolition.

Subsection: **Revision:**	609.03 Construction. Replace Subsection 609.03.01 with the following: 609.03.01 A) Swinging the Spans. Before placing concrete slabs on steel spans or precast concrete release the temporary erection supports under the bridge and swing the span free on its supports. 609.03.01 B) Lift Loops. Cut all lift loops flush with the top of the precast beam once the beam is placed in the final location and prior to placing steel reinforcement. At locations where lift loops are cut, paint the top of the beam with galvanized or epoxy paint.
Subsection: **Number:** **Revision:**	613.03.01 Design. 2) Replace "AASHTO Standard Specifications for Highway Bridges" with "AASHTO LRFD Bridge Design Specifications"
Subsection: **Revision:**	615.06.02 Add the following sentence to the end of the subsection. The ends of units shall be normal to walls and centerline except exposed edges shall be beveled ¾ inch.
Subsection: **Revision:**	615.06.03 Placement of Reinforcement in Precast 3-Sided Units. Replace the reference of 6.6 in the section to 615.06.06.
Subsection: **Revision:**	615.06.04 Placement of Reinforcement for Precast Endwalls. Replace the reference of 6.7 in the section to 615.06.07.
Subsection: **Revision:**	615.06.06 Laps, Welds, and Spacing for Precast 3-Sided Units. Replace the subsection with the following: Tension splices in the circumferential reinforcement shall be made by lapping. Laps may not be tack welded together for assembly purposes. For smooth welded wire fabric, the overlap shall meet the requirements of AASHTO 2012 Bridge Design Guide Section 5.11.2.5.2 and AASHTO 2012 Bridge Design Guide Section 5.11.6.3. For deformed welded wire fabric, the overlap shall meet the requirements of AASHTO 2012 Bridge Design Guide Section 5.11.2.5.1 and AASHTO 2012 Bridge Design Guide Section 5.11.6.2. The overlap of welded wire fabric shall be measured between the outer most longitudinal wires of each fabric sheet. For deformed billet-steel bars, the overlap shall meet the requirements of AASHTO 2012 Bridge Design Guide Section 5.11.2.1. For splices other than tension splices, the overlap shall be a minimum of 12" for welded wire fabric or deformed billet-steel bars. The spacing center to center of the circumferential wires in a wire fabric sheet shall be no less than 2 inches and no more than 4 inches. The spacing center to center of the longitudinal wires shall not be more than 8 inches. The spacing center to center of the longitudinal distribution steel for either line of reinforcing in the top slab shall be not more than 16 inches.

Subsection: **Revision:**	615.06.07 Laps, Welds, and Spacing for Precast Endwalls. Replace the subsection with the following: Splices in the reinforcement shall be made by lapping. Laps may not be tack welded together for assembly purposes. For smooth welded wire fabric, the overlap shall meet the requirements of AASHTO 2012 Bridge Design Guide Section 5.11.2.5.2 and AASHTO 2012 Bridge Design Guide Section 5.11.6.3. For deformed welded wire fabric, the overlap shall meet the requirements of AASHTO 2012 Bridge Design Guide Section 5.11.2.5.1 and AASHTO 2012 Bridge Design Guide Section 5.11.6.2. For deformed billet-steel bars, the overlap shall meet the requirements of AASHTO 2012 Bridge Design Guide Section 5.11.2.1. The spacing center-to-center of the wire fabric sheet shall not be less than 2 inches or more than 8 inches.
Subsection: **Revision:**	615.08.01 Type of Test Specimen. Replace the subsection with the following: Start-up slump, air content, unit weight, and temperature tests will be performed each day on the first batch of concrete. Acceptable start-up results are required for production of the first unit. After the first unit has been established, random acceptance testing is performed daily for each 50 yd^3 (or fraction thereof). In addition to the slump, air content, unit weight, and temperature tests, a minimum of one set of cylinders shall be required each time plastic property testing is performed.
Subsection: **Revision:**	615.08.02 Compression Testing. Delete the second sentence.
Subsection: **Revision:**	615.08.04 Acceptability of Core Tests. Delete the entire subsection.
Subsection: **Revision:**	615.12 Inspection. Add the following sentences to the end of the subsection: Units will arrive at jobsite with the "Kentucky Oval" stamped on the unit which is an indication of acceptable inspection at the production facility. Units shall be inspected upon arrival for any evidence of damage resulting from transport to the jobsite.

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SPECIAL NOTE FOR PORTABLE CHANGEABLE MESSAGE SIGNS

This Special Note will apply when indicated on the plans or in the proposal.

1.0 DESCRIPTION. Furnish, install, operate, and maintain variable message signs at the locations shown on the plans or designated by the Engineer. Remove and retain possession of variable message signs when they are no longer needed on the project.

2.0 MATERIALS.

2.1 General. Use LED Variable Message Signs Class I, II, or III, as appropriate, from the Department's List of Approved Materials.

Unclassified signs may be submitted for approval by the Engineer. The Engineer may require a daytime and nighttime demonstration. The Engineer will make a final decision within 30 days after all required information is received.

2.2 Sign and Controls. All signs must:

1) Provide 3-line messages with each line being 8 characters long and at least 18 inches tall. Each character comprises 35 pixels.
2) Provide at least 40 preprogrammed messages available for use at any time. Provide for quick and easy change of the displayed message; editing of the message; and additions of new messages.
3) Provide a controller consisting of:
   a) Keyboard or keypad.
   b) Readout that mimics the actual sign display. (When LCD or LCD type readout is used, include backlighting and heating or otherwise arrange for viewing in cold temperatures.)
   c) Non-volatile memory or suitable memory with battery backup for storing pre-programmed messages.
   d) Logic circuitry to control the sequence of messages and flash rate.
4) Provide a serial interface that is capable of supporting complete remote control ability through land line and cellular telephone operation. Include communication software capable of immediately updating the message, providing complete sign status, and allowing message library queries and updates.
5) Allow a single person easily to raise the sign to a satisfactory height above the pavement during use, and lower the sign during travel.
6) Be Highway Orange on all exterior surfaces of the trailer, supports, and controller cabinet.
7) Provide operation in ambient temperatures from -30 to + 120 degrees Fahrenheit during snow, rain and other inclement weather.
8) Provide the driver board as part of a module. All modules are interchangeable, and have plug and socket arrangements for disconnection and reconnection. Printed circuit boards associated with driver boards have a conformable coating to protect against moisture.
9) Provide a sign case sealed against rain, snow, dust, insects, etc. The lens is UV stabilized clear plastic (polycarbonate, acrylic, or other approved material) angled to prevent glare.
10) Provide a flat black UV protected coating on the sign hardware, character PCB, and appropriate lens areas.
11) Provide a photocell control to provide automatic dimming.

1I

12) Allow an on-off flashing sequence at an adjustable rate.
13) Provide a sight to aim the message.
14) Provide a LED display color of approximately 590 nm amber.
15) Provide a controller that is password protected.
16) Provide a security device that prevents unauthorized individuals from accessing the controller.
17) Provide the following 3-line messages preprogrammed and available for use when the sign unit begins operation:

/KEEP/RIGHT/⇒⇒⇒/
/KEEP/LEFT/⇐⇐⇐/
/LOOSE/GRAVEL/AHEAD/
/RD WORK/NEXT/**MILES/
/TWO WAY/TRAFFIC/AHEAD/
/PAINT/CREW/AHEAD/
/REDUCE/SPEED/**MPH/
/BRIDGE/WORK/***0 FT/
/MAX/SPEED/**MPH/
/SURVEY/PARTY/AHEAD/
/MIN/SPEED/**MPH/
/ICY/BRIDGE/AHEAD/ /ONE LANE/BRIDGE/AHEAD/
/ROUGH/ROAD/AHEAD/
/MERGING/TRAFFIC/AHEAD/
/NEXT/***/MILES/
/HEAVY/TRAFFIC/AHEAD/
/SPEED/LIMIT/**MPH/
/BUMP/AHEAD/
/TWO/WAY/TRAFFIC/

*Insert numerals as directed by the Engineer.
Add other messages during the project when required by the Engineer.

2.3 Power.

1) Design solar panels to yield 10 percent or greater additional charge than sign consumption. Provide direct wiring for operation of the sign or arrow board from an external power source to provide energy backup for 21 days without sunlight and an on-board system charger with the ability to recharge completely discharged batteries in 24 hours.

3.0 CONSTRUCTION. Furnish and operate the variable message signs as designated on the plans or by the Engineer. Ensure the bottom of the message panel is a minimum of 7 feet above the roadway in urban areas and 5 feet above in rural areas when operating. Use Class I, II, or III signs on roads with a speed limit less than 55 mph. Use Class I or II signs on roads with speed limits 55 mph or greater.

Maintain the sign in proper working order, including repair of any damage done by others, until completion of the project. When the sign becomes inoperative, immediately repair or replace the sign. Repetitive problems with the same unit will be cause for rejection and replacement.

Use only project related messages and messages directed by the Engineer, unnecessary messages lessen the impact of the sign. Ensure the message is displayed in either one or 2 phases with each phase having no more than 3 lines of text. When no message is needed, but it is necessary to know if the sign is operable, flash only a pixel.

When the sign is not needed, move it outside the clear zone or where the Engineer directs. Variable Message Signs are the property of the Contractor and shall be removed from the project when no longer needed. The Department will not assume ownership of these signs.

4.0 MEASUREMENT. The final quantity of Variable Message Sign will be

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the actual number of individual signs acceptably furnished and operated during the project. The Department will not measure signs replaced due to damage or rejection.

5.0 PAYMENT. The Department will pay for the Variable Message Signs at the unit price each. The Department will not pay for signs replaced due to damage or rejection. Payment is full compensation for furnishing all materials, labor, equipment, and service necessary to, operate, move, repair, and maintain or replace the variable message signs. The Department will make payment for the completed and accepted quantities under the following:

Code	Pay Item	Pay Unit
02671	Portable Changeable Message Sign	Each

Effective June 15, 2012

11J

SPECIAL NOTE FOR FULL DEPTH CONCRETE PAVEMENT REPAIR

This Special Note applies to full depth repairs of concrete pavement. Section references herein are to the Department's 2012 Standard Specifications for Road and Bridge Construction.

1.0 DESCRIPTION. Remove and replace concrete pavement. Comply with the applicable Standard Drawings and the Standard Specifications except as specifically superseded herein.

2.0 MATERIALS AND EQUIPMENT.

2.1 JPC Pavement. Test concrete materials according to section 601.03.03. Conform to 501, 502, and 601 except that the concrete must achieve 3000 psi in accordance with Section 4.4 of this note. The Engineer may allow pavement to be opened to traffic at less than 3,000 psi subject to the deductions described in Section 4.4 of this note.

2.2 Dowel Bars and Sleeves. Conform to 811.

2.3 Tie Bars. Conform to Section 811. Use epoxy coated tie bars in longitudinal and transverse joints.

2.4 Joint Sealants. Conform to Subsection 807.03.01 or 807.03.05.

2.5 Grout Adhesives and Epoxy Resin Systems. Conform to Section 826.

2.6 Dense Graded Aggregate (DGA) and Crushed Stone Base (CSB). Conform to Section 805.

2.7 Geotextile Fabric. Conform to Section 843.

2.8 Drills. Drill holes using a gang drill, capable of drilling a minimum of four simultaneously. Misalignment of holes shall not exceed 1/4 inch in the vertical or oblique plane.

2.9 Hammers. Only use chisel point hammers weighing less than 40 pounds to remove deteriorated concrete.

3.0 CONSTRUCTION.

3.1 Removal of Existing Pavement. Remove existing pavement to the extent the Contract specifies or as the Engineer directs. The minimum length of patches measured along centerline is 3 feet on each side of an existing joint.

When working with pavements with non-skewed transverse joints, if it is necessary to remove existing pavement closer than 6 feet to a transverse joint, remove the pavement 3 feet beyond that joint .

When working with pavements with skewed transverse joints, if it is necessary to remove existing pavement closer than 3 feet to a transverse joint, remove the pavement 3 feet beyond that joint.

Details of configurations of pavement and joints for various situations are depicted in the drawings herein.

When small areas of removal and replacement are performed at bridge ends, maintain or reconstruct existing expansion joints at their existing location. When the Engineer determines extensive full width removal and replacement is required, construct new expansion joints at the locations shown on Standard Drawing No. RPN-010.

In the removal operation, make a full depth saw cut longitudinally along the centerline joint and shoulder joint and transversely along the area marked for removal. To prevent damage to the subbase, do not allow the saw to penetrate more than ½" into the subbase. The Engineer may direct or approve additional cuts within the removal area for ease of removal of the damaged slab and to prevent damage to adjacent pavement to remain in place. Do not overcut beyond the limits of the removal area. Prevent saw slurry from entering existing joints and cracks. To avoid pumping and erosion beneath the slab, do not allow traffic on sawed pavement for more than 48 hours before beginning removal procedures, unless directed by the Engineer.

Lift out the deteriorated concrete vertically with lift pins. If approved by the Engineer, use other methods that do not damage the base, shoulder, or sides of pavement that is to be left in place. If any damage does occur, repair as the Engineer directs and use an acceptable alternative method for the removal process. Do not damage the pavement base during these operations.

3.2 Pavement Replacement. Do not damage the pavement base during these operations.

3.2.1 Preparation of Base. Compact the new and existing aggregate base to the Engineer's satisfaction. The Engineer will accept compaction by either visual inspection or by nuclear gauge. When the Engineer deems it necessary to stabilize the existing base or replace unsuitable materials, excluding bridge ends, use 12 inches of geotextile fabric wrapped No. 2 aggregate topped with 4 inches of DGA or CSB. Use either Type III or Type IV geotextile fabric. Flowable fill and cement stabilization may be used as an alternative to stabilize the existing base or to replace unsuitable materials when a plan for such is presented to and approved by the Engineer. The Engineer may also direct using only DGA or CSB to correct base deficiencies. At bridge ends, treat existing base and subgrade as the Contract specifies. During compaction, wet the base as the Engineer directs. Compact areas not accessible to compaction equipment by hand tamping.

3.2.2 Underdrains. Construct, or repair damage to, pavement edge drains according to Section 704. If underdrains are placed omitting areas to be patched, construct additional lateral drains as necessary to provide outlets for the installed underdrain until performing the pavement replacement and completing the underdrain system. Provide drainage for any undercut or base repair areas.

3.2.3 Pavement Replacement. Using load transfer assemblies for dowel joints drill into the existing slab according to the details shown herein and on the Standard Drawings.

Use plain epoxy coated dowels of the size specified on the standard drawings based on the pavement thickness for contraction and expansion joints.

Drill holes for dowel bars and tie bars into the face of the existing slab, at a diameter as specified in the following. Drill the dowel bar holes and tie bar

holes to a depth equal to 1/2 the length of the bars. Anchor tie bars into the existing pavement using an epoxy resin. Anchor dowel bars into the existing pavement using either an epoxy resin or an adhesive grout. For tie bars and dowel bars where an epoxy resin is to be used drill the holes 1/8 inch larger than the bar diameter. For dowel bars where an adhesive grout product is to be used, drill holes 1/4 inch larger than the bar diameter. Use a clear or opaque grout retention disk in both grout and epoxy applications. Operate the equipment to prevent damage to the pavement being drilled. Obtain the Engineer's approval of the drilling procedure. Install load transfer assemblies according to the Standard Drawings and Standard Specifications.

When indicated herein or in the Standard Drawings, use 1 inch deformed tie bars, 18 inches long on 30-inch centers and starting and ending 20 inches inside the edges of the repair area in the longitudinal joint. Use 1 inch deformed tie bars, or plain epoxy coated dowel bars sized in accordance with the Standard Drawings, 18 inches long beginning 12 inches inside of each edge and on 12-inch centers in transverse construction joints.

Install the dowels and tie bars according to Section 511 unless contradicted here. Ensure the holes are dry and free of dust and debris. Use a nozzle to insert the grout or epoxy starting at the back of the drilled hole to allow for full coating of the dowel or tie bar. After placement, use a bond breaker on the section of the dowel bar that is protruding from the hole.

Mix, place, finish, and cure concrete according to Section 501 with the exception that the Department will allow truck mixing, 2-bag mixers, and hand finishing.

When required, use a form on the side of the slab at longitudinal joints. When the adjacent traffic lane is not closed to traffic or the drop-off is not protected, temporarily fill the space between the form and the adjacent pavement with DGA. After placing the slab, remove the DGA and form. Fill the hole with concrete and thoroughly consolidate by rodding, spading, and sufficient vibration to form a dense homogeneous mass. Use a form on the side of the slab adjacent to shoulders. Excavate and backfill as shown on Section F'-F'.

For patches less than 25 feet in length, use a bond breaker and do not install tie bars at the longitudinal joint. Bond breakers should not exceed 1/8 inch in thickness, e.g. tar paper.

When resurfacing is required, a float finish is satisfactory. Otherwise, broom finish or, when the adjacent surface has a grooved finish, texture the surface according to Subsection 501.03.13 H). Finish the surface, including joints, to meet a surface tolerance of 1/8 inch in 10 feet that will be verified by straightedge. Cure the pavement and apply curing membranes according to 501.03.15.

Keep all pavement surfaces adjacent to this operation reasonably clean of excess grout and other materials at all times. Maintain all original longitudinal joints. Place transverse joints according to the details shown herein and on the Standard Drawings.

3.3 Joint Sealing. Seal all new or partially new joints with silicone rubber sealant or hot-poured elastic joint sealant according to Subsection 501.03.18.

4.0 MEASUREMENT.

4.1 Remove JPC Pavement. The Department will measure the quantity in square yards of surface area. The Department will not measure removal of

underlying base material for payment and will consider it incidental to Remove JPC Pavement.

4.2 DGA or CSB. The Department will measure the quantity used to stabilize the existing base or to replace unsuitable material in tons. The Department will not measure removal of existing base material or underlying material for payment and will consider incidental to DGA or CSB. The quantity of DGA used for the drop-off protection shall be incidental to this work and will not be measured for payment.

4.3 JPC Pavement Non-Reinforced. The Department will measure according to 501.04.01. The Department will not measure dowels, tie bars, or joint sealing for payment and will consider it incidental to Non-Reinforced JPC Pavement.

JPC Pavement will be paid according to section 5.0 below and according to the following payment schedule based on the compressive strength. The cylinders for payment will be tested two hours prior the scheduled opening of traffic.

3000 psi and up	100% payment
2750 to 3000 psi	75% payment and approval from the Engineer to open to traffic*
2500 to 2750 psi	50% payment and approval from the Engineer to open to traffic*
2250 to 2500 psi	25% payment and approval from the Engineer to open to traffic*
Below 2250 psi	10% payment and no potential to open to traffic. Maintain traffic closure until concrete reaches a minimum of 2250 psi.

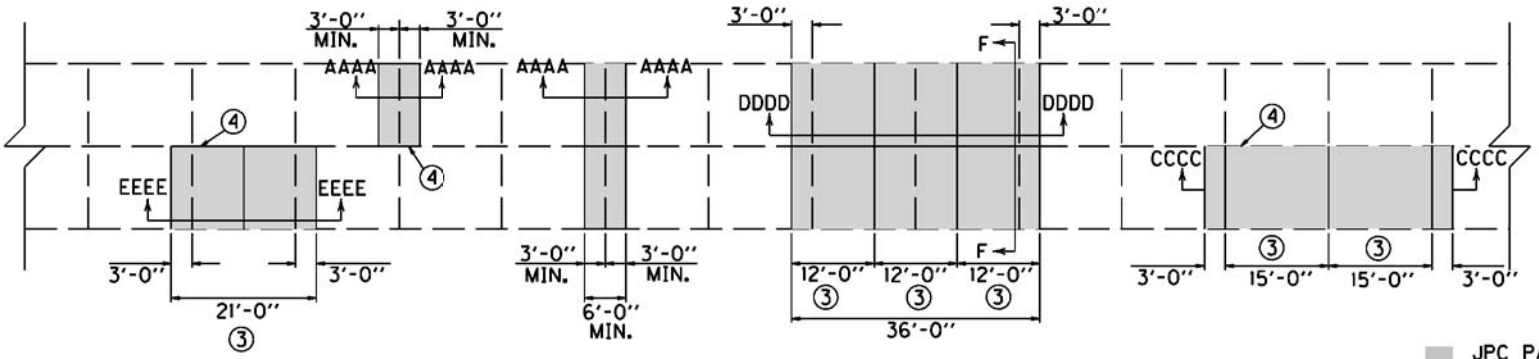
*If the Engineer approves opening to traffic, the Engineer will evaluate the concrete at 28 days (or sooner) to determine if the removal and replacement of the concrete is necessary due to pavement distress induced by the early opening (i.e. noticeable cracking). If required by the Engineer, remove and replace those slabs showing distress at no cost to the Department.

4.4 Underdrains. The Department will measure the quantity according to Subsection 704.04. The Department will not measure lateral drains for payment and will consider them incidental to the Underdrains.

5.0 PAYMENT. The Department will make payment for the completed and accepted quantities under the following:

Code	Pay Item	Pay Unit
----	Remove JPC Pavement	Square Yard
00001	DGA Base	Ton
00003	Crushed Stone Base	Ton
02069-02071, 02073, 02075, 02084, 02086, 02088	JPC Pavement Non-Reinforced, thickness	See Subsection 501.05
01000	Perforated Pipe, 4-inch	Linear Foot
02598, 02599	Fabric-Geotextile, Type	Square Yard

The Department will consider payment as full compensation for all work required in this provision.



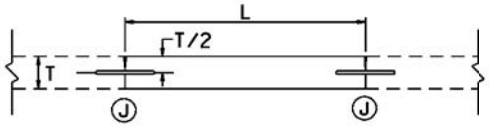
PLAN VIEW

1. SAW AT LOCATIONS "J" AND ALONG LONGITUDINAL JOINT (IF ONLY ONE LANE IS REMOVED) FULL DEPTH WITHOUT DAMAGE TO EXISTING CONCRETE. SAW RELIEF JOINTS AS THE ENGINEER DIRECTS OR APPROVES. REMOVE THE EXISTING JPC PAVEMENT TO THE LENGTH AND AT THE LOCATIONS NOTED ELSEWHERE IN THE CONTRACT. L=6 FEET MINIMUM AND LOCATIONS "J" SHALL NOT BE CLOSER THAN 6 FEET TO ANY TRANSVERSE JOINT BEYOND THE REPAIR.
2. INSTALL SMOOTH, LOAD TRANSFER DOWELS (EXCEPT USE TIE BARS FOR SECTION CCCC), 18 INCHES LONG (SEE STANDARD DRAWING NO. RPS-020 FOR DOWEL SIZE) AT LOCATIONS "J". INSTALL DOWELS (OR TIE BARS FOR SECTION CCCC) IN THE EXISTING CONCRETE USING EPOXY TYPE IV. INSTALL DOWELS (OR TIE BARS FOR SECTION CCCC) ON 12 INCH CENTERS BEGINNING 12 INCHES FROM THE EDGE OF THE SLAB.

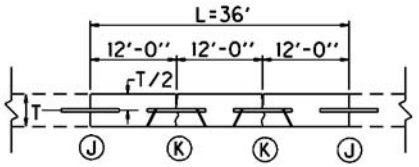
③ IF L IS GREATER THAN 20 FEET, INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND CONSTRUCT CONTRACTION JOINTS SUCH THAT THE DISTANCE BETWEEN JOINTS IN THE REPLACED SECTION IS NO LESS THAN 10 FEET OR MORE THAN 20 FEET. TRANSVERSE JOINTS SHALL BE SPACED APPROXIMATELY 15' EQUIDISTANT, BUT NOT LESS THAN 10 FEET OR NO MORE THAN 20 FEET. ADJUST JOINTS TO PROVIDE THE MINIMUM NUMBER OF JOINTS WITHOUT EXCEEDING THE 10-20 FOOT RANGE. INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND ALIGN LOAD TRANSFER ASSEMBLY(S) WITH AN EXISTING JOINT OR CRACK IN THE ADJACENT SLAB IF ONLY ONE LANE IS BEING REPLACED.

④ IF ONLY ONE LANE IS REMOVED, AND L>25', INSTALL NEW 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS IN THE LONGITUDINAL JOINT USING EPOXY TYPE IV. IF 2 OR MORE LANES ARE REMOVED, CONSTRUCT LONGITUDINAL JOINT(S) ACCORDING TO THE STANDARD DRAWING EXCEPT USE 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS. IF L≤25', DO NOT TIE THE LONGITUDINAL JOINT TO THE EXISTING LANE; USE A BOND BREAKER MATERIAL APPROVED BY THE ENGINEER THAT WILL ASSURE NO INTERACTION WITH THE ADJACENT LANE.

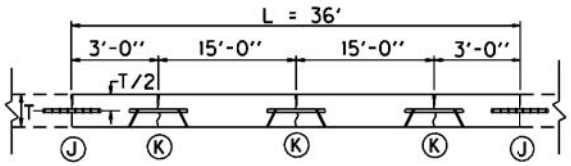
5. REPLACE WITH NON-REINFORCED JPC PAVEMENT AND INSTALL CONTRACTION JOINTS AT LOCATIONS "K" AND CONTRACTION JOINTS (OR A CONSTRUCTION JOINT FOR LOCATION CCCC) AT LOCATIONS "J". SAW AND SEAL ALL JOINTS.
6. SEE "CROSS SECTION" FOR SECTION F.



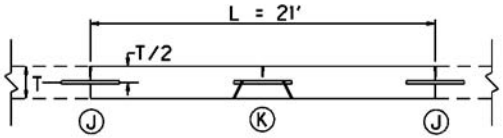
SECTION AAAA
JOINT REPLACEMENT



SECTION DDDD
FULL WIDTH REPLACEMENT
(INCLUDING JPC SHOULDERS)

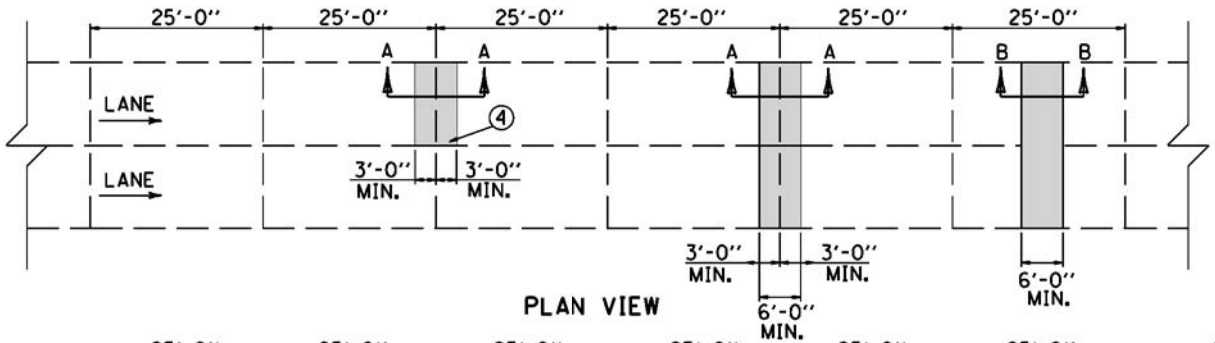


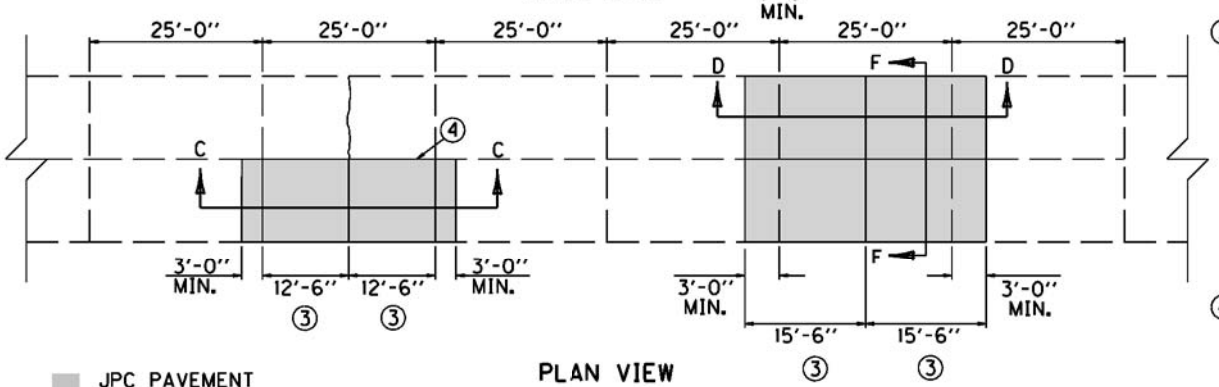
SECTION CCCC
LANE REPLACEMENT WHERE ADJACENT
LANES OR JPC SHOULDERS WILL REMAIN



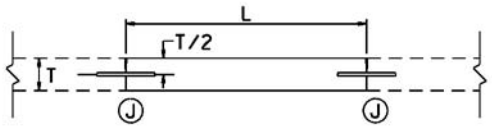
SECTION EEEE
LANE REPLACEMENT L≤25'

KENTUCKY DEPARTMENT OF HIGHWAYS
15' JOINT SPACING
APPROVED _____ TEBM DIVISION OF DESIGN _____ DATE

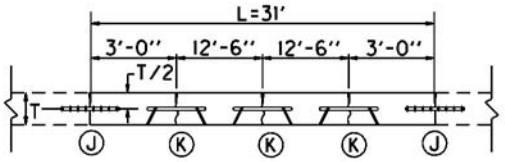




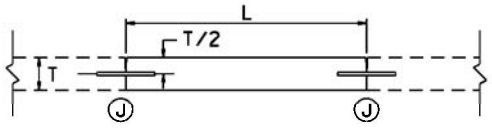
JPC PAVEMENT TO BE REMOVED



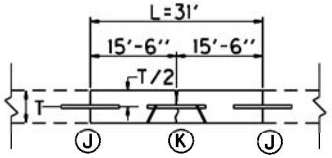
SECTION A
JOINT REPLACEMENT



SECTION C
LANE REPLACEMENT WHERE ADJACENT LANES OR JPC SHOULDERS WILL REMAIN



SECTION B
MID-SLAB REPLACEMENT



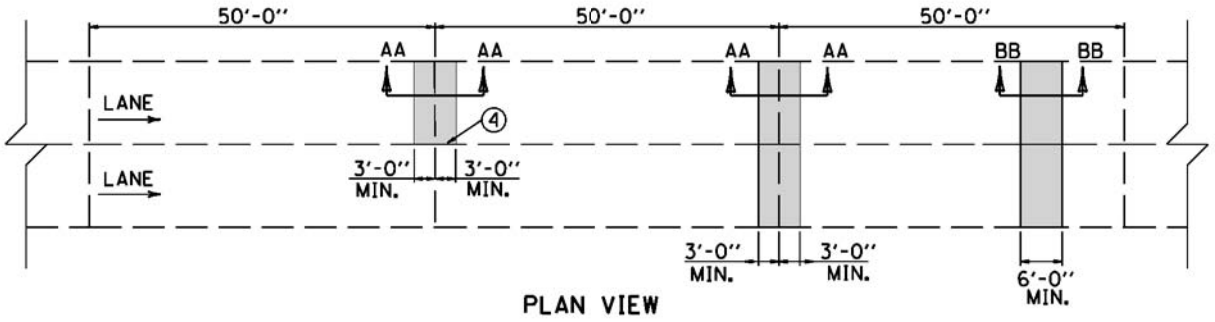
SECTION D
FULL WIDTH REPLACEMENT
(INCLUDING JPC SHOULDERS)

1. SAW AT LOCATIONS "J" AND ALONG LONGITUDINAL JOINT (IF ONLY ONE LANE IS REMOVED) FULL DEPTH WITHOUT DAMAGE TO EXISTING CONCRETE. SAW RELIEF JOINTS AS THE ENGINEER DIRECTS OR APPROVES. REMOVE THE EXISTING JPC PAVEMENT TO THE LENGTH AND AT THE LOCATIONS NOTED ELSEWHERE IN THE CONTRACT. L=6 FEET MINIMUM AND LOCATIONS "J" SHALL NOT BE CLOSER THAN 6 FEET TO ANY TRANSVERSE JOINT BEYOND THE REPAIR.
2. INSTALL SMOOTH, LOAD TRANSFER DOWELS (EXCEPT USE TIE BARS FOR SECTION C), 18 INCHES LONG (SEE STANDARD DRAWING NO. RPS-020 FOR DOWEL SIZE) AT LOCATIONS "J". INSTALL DOWELS (OR TIE BARS FOR SECTION C) IN THE EXISTING CONCRETE USING EPOXY TYPE IV. INSTALL DOWELS (OR TIE BARS FOR SECTION C) ON 12 INCH CENTERS BEGINNING 12 INCHES FROM THE EDGE OF THE SLAB.
3. IF L IS GREATER THAN 20 FEET, INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND CONSTRUCT CONTRACTION JOINTS SUCH THAT THE DISTANCE BETWEEN JOINTS IN THE REPLACED SECTION IS NO LESS THAN 10 FEET OR MORE THAN 20 FEET. TRANSVERSE JOINTS SHALL BE SPACED APPROXIMATELY 15' EQUIDISTANT, BUT NOT LESS THAN 10 FEET OR NO MORE THAN 20 FEET. ADJUST JOINTS TO PROVIDE THE MINIMUM NUMBER OF JOINTS WITHOUT EXCEEDING THE 10-20 FOOT RANGE. INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND ALIGN LOAD TRANSFER ASSEMBLY(S) WITH AN EXISTING JOINT OR CRACK IN THE ADJACENT SLAB IF ONLY ONE LANE IS BEING REPLACED.
4. IF ONLY ONE LANE IS REMOVED, AND L>25', INSTALL NEW 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS IN THE LONGITUDINAL JOINT USING EPOXY TYPE IV. IF 2 OR MORE LANES ARE REMOVED, CONSTRUCT LONGITUDINAL JOINT(S) ACCORDING TO THE STANDARD DRAWING EXCEPT USE 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS. IF L≤25', DO NOT TIE THE LONGITUDINAL JOINT TO THE EXISTING LANE; USE A BOND BREAKER MATERIAL APPROVED BY THE ENGINEER THAT WILL ASSURE NO INTERACTION WITH THE ADJACENT LANE.
5. REPLACE WITH NON-REINFORCED JPC PAVEMENT AND INSTALL CONTRACTION JOINTS AT LOCATIONS "K" AND CONTRACTION JOINTS (OR A CONSTRUCTION JOINT FOR LOCATION C) AT LOCATIONS "J". SAW AND SEAL ALL JOINTS.
6. SEE "CROSS SECTION" FOR SECTION F.

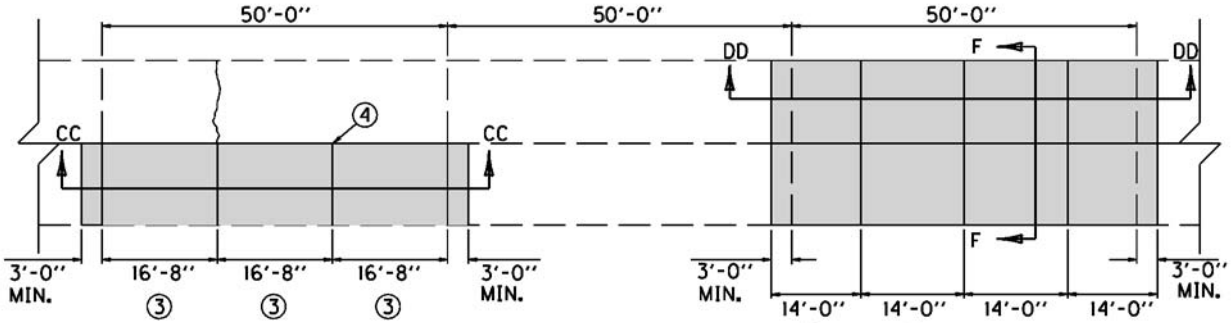
KENTUCKY DEPARTMENT OF HIGHWAYS

25' JOINT SPACING

APPROVED _____ TEBM DIVISION OF DESIGN _____ DATE

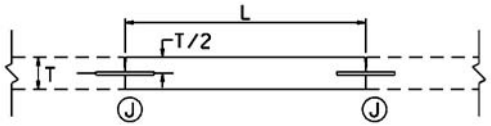


PLAN VIEW

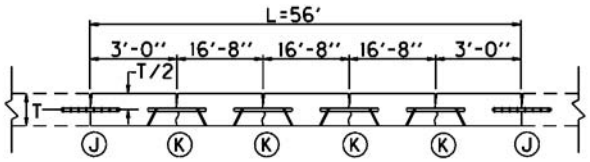


JPC PAVEMENT TO BE REMOVED

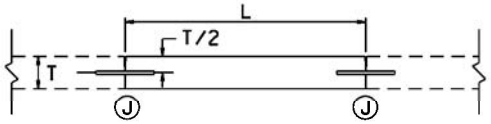
PLAN VIEW



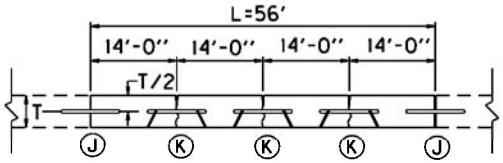
SECTION AA
JOINT REPLACEMENT



SECTION CC
LANE REPLACEMENT WHERE ADJACENT LANES OR JPC SHOULDERS WILL REMAIN



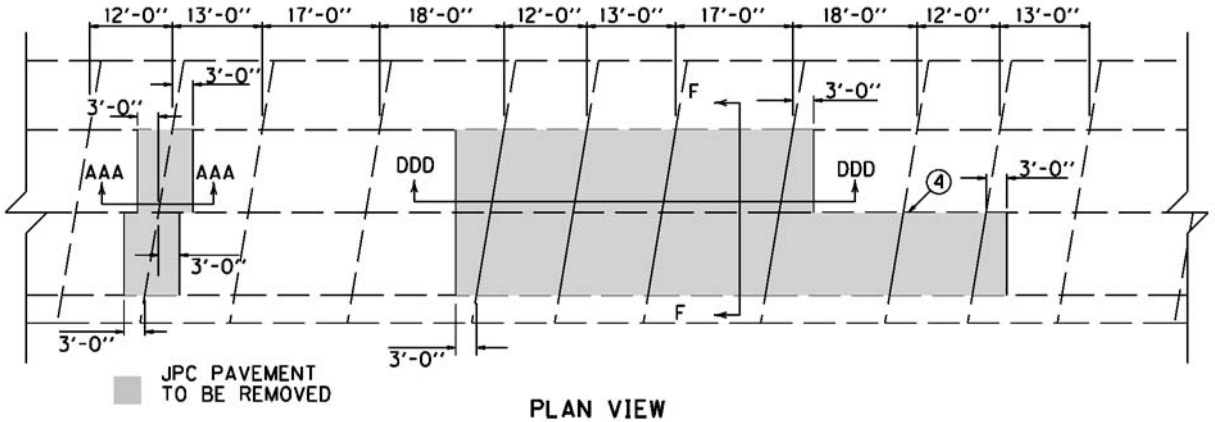
SECTION BB
MID-SLAB REPLACEMENT



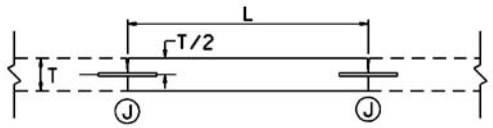
SECTION DD
FULL WIDTH REPLACEMENT
(INCLUDING JPC SHOULDERS)

1. SAW AT LOCATIONS "J" AND ALONG LONGITUDINAL JOINT (IF ONLY ONE LANE IS REMOVED) FULL DEPTH WITHOUT DAMAGE TO EXISTING CONCRETE. SAW RELIEF JOINTS AS THE ENGINEER DIRECTS OR APPROVES. REMOVE THE EXISTING JPC PAVEMENT TO THE LENGTH AND AT THE LOCATIONS NOTED ELSEWHERE IN THE CONTRACT. L=6 FEET MINIMUM AND LOCATIONS "J" SHALL NOT BE CLOSER THAN 6 FEET TO ANY TRANSVERSE JOINT BEYOND THE REPAIR.
2. INSTALL SMOOTH, LOAD TRANSFER DOWELS (EXCEPT USE TIE BARS FOR SECTION CC), 18 INCHES LONG (SEE STANDARD DRAWING NO. RPS-020 FOR DOWEL SIZE) AT LOCATIONS "J". INSTALL DOWELS (OR TIE BARS FOR SECTION CC) IN THE EXISTING CONCRETE USING EPOXY TYPE IV. INSTALL DOWELS (OR TIE BARS FOR SECTION CC) ON 12 INCH CENTERS BEGINNING 12 INCHES FROM THE EDGE OF THE SLAB.
3. IF L IS GREATER THAN 20 FEET, INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND CONSTRUCT CONTRACTION JOINTS SUCH THAT THE DISTANCE BETWEEN JOINTS IN THE REPLACED SECTION IS NO LESS THAN 10 FEET OR MORE THAN 20 FEET. TRANSVERSE JOINTS SHALL BE SPACED APPROXIMATELY 15' EQUIDISTANT, BUT NOT LESS THAN 10 FEET OR NO MORE THAN 20 FEET. ADJUST JOINTS TO PROVIDE THE MINIMUM NUMBER OF JOINTS WITHOUT EXCEEDING THE 10-20 FOOT RANGE. INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND ALIGN LOAD TRANSFER ASSEMBLY(S) WITH AN EXISTING JOINT OR CRACK IN THE ADJACENT SLAB IF ONLY ONE LANE IS BEING REPLACED.
4. IF ONLY ONE LANE IS REMOVED, AND L>25', INSTALL NEW 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS IN THE LONGITUDINAL JOINT USING EPOXY TYPE IV. IF 2 OR MORE LANES ARE REMOVED, CONSTRUCT LONGITUDINAL JOINT(S) ACCORDING TO THE STANDARD DRAWING EXCEPT USE 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS. IF L≤25', DO NOT TIE THE LONGITUDINAL JOINT TO THE EXISTING LANE; USE A BOND BREAKER MATERIAL APPROVED BY THE ENGINEER THAT WILL ASSURE NO INTERACTION WITH THE ADJACENT LANE.
5. REPLACE WITH NON-REINFORCED JPC PAVEMENT AND INSTALL CONTRACTION JOINTS AT LOCATIONS "K" AND CONTRACTION JOINTS (OR A CONSTRUCTION JOINT FOR LOCATION CC) AT LOCATIONS "J". SAW AND SEAL ALL JOINTS.
6. SEE "CROSS SECTION" FOR SECTION F.

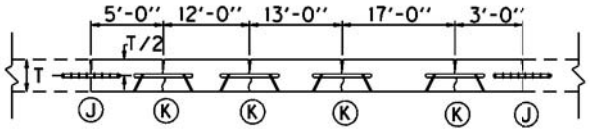
KENTUCKY DEPARTMENT OF HIGHWAYS
50' JOINT SPACING
SUBMITTED _____ TEBM DIVISION OF DESIGN _____ DATE



PLAN VIEW



SECTION AAA
JOINT REPLACEMENT



SECTION DDD
LANE REPLACEMENT
(ALWAYS MATCH EXISTING JOINTS)

1. SAW AT LOCATIONS "J" AND ALONG LONGITUDINAL JOINT (IF ONLY ONE LANE IS REMOVED) FULL DEPTH WITHOUT DAMAGE TO EXISTING CONCRETE. SAW RELIEF JOINTS AS THE ENGINEER DIRECTS OR APPROVES. REMOVE THE EXISTING JPC PAVEMENT TO THE LENGTH AND AT THE LOCATIONS NOTED ELSEWHERE IN THE CONTRACT. L=6 FEET MINIMUM AND LOCATIONS "J" SHALL NOT BE CLOSER THAN 6 FEET TO ANY TRANSVERSE JOINT BEYOND THE REPAIR.
2. INSTALL SMOOTH, LOAD TRANSFER DOWELS (EXCEPT USE TIE BARS FOR SECTION DDD), 18 INCHES LONG (SEE STANDARD DRAWING NO. RPS-020 FOR DOWEL SIZE) AT LOCATIONS "J". INSTALL DOWELS (OR TIE BARS FOR SECTION DDD) IN THE EXISTING CONCRETE USING EPOXY TYPE IV. INSTALL DOWELS (OR TIE BARS FOR SECTION DDD) ON 12 INCH CENTERS BEGINNING 12 INCHES FROM THE EDGE OF THE SLAB.
3. IF L IS GREATER THAN 20 FEET, INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND MATCH EXISTING JOINTS. INSTALL NEW LOAD TRANSFER ASSEMBLY(S) AND ALIGN LOAD TRANSFER ASSEMBLY(S) WITH EXISTING JOINTS IN ADJACENT SLABS.

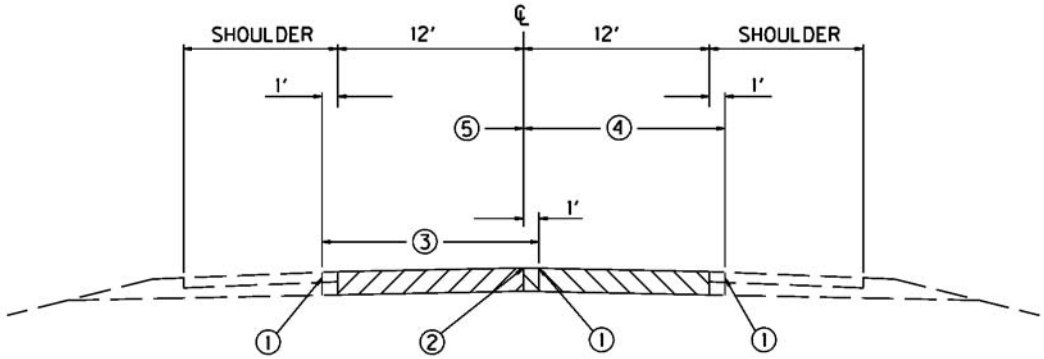
④ IF ONLY ONE LANE IS REMOVED, AND L>25', INSTALL NEW 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS IN THE LONGITUDINAL JOINT USING EPOXY TYPE IV. IF 2 OR MORE LANES ARE REMOVED, CONSTRUCT LONGITUDINAL JOINT(S) ACCORDING TO THE STANDARD DRAWING EXCEPT USE 1-INCH TIE BARS 18 INCHES LONG ON 30 INCH CENTERS. IF L≤25', DO NOT TIE THE LONGITUDINAL JOINT TO THE EXISTING LANE; USE A BOND BREAKER MATERIAL APPROVED BY THE ENGINEER THAT WILL ASSURE NO INTERACTION WITH THE ADJACENT LANE.

5. REPLACE WITH NON-REINFORCED JPC PAVEMENT AND INSTALL CONTRACTION JOINTS AT LOCATIONS "K" AND CONTRACTION JOINTS (OR A CONSTRUCTION JOINT FOR LOCATION DDD) AT LOCATIONS "J". SAW AND SEAL ALL JOINTS.
6. SEE "CROSS SECTION" FOR SECTION F.

KENTUCKY
DEPARTMENT OF HIGHWAYS

RANDOM SKEWED

APPROVED _____ _____
TEBM DIVISION OF DESIGN DATE



SECTION F

① SAW-CUT LINE. THIS ONE FOOT IS TO ALLOW FOR A FORM AND THE REMOVAL AND REPLACEMENT SHALL BE INCIDENTAL TO THE WORK, EXCEPT NEW ASPHALT MIXTURE SHALL BE PAID DIRECT ON A TONNAGE BASIS, AND NEW JPC PAVEMENT WILL BE PAID BY THE SQUARE YARD. COMPACT THE DGA BASE BY MECHANICAL TAMPERS TO THE ENGINEER'S SATISFACTION.

② EXISTING LONGITUDINAL JOINT.

③ FIRST SLAB REMOVAL LIMITS AND REPLACE 12-FOOT LANE.

④ SECOND SLAB REMOVAL LIMITS AND REPLACE 12-FOOT LANE.

⑤ THIS ONE FOOT IS TO ALLOW FOR A FORM ON THE FIRST POUR, AND A TEMPORARY PAVEMENT IS REQUIRED. THE DEPARTMENT WILL NOT REQUIRE REMOVAL OF THIS ONE FOOT IF THE GRADE OF THE EXISTING PAVEMENT IS ADEQUATE TO ENSURE THE NEW CONCRETE CAN BE PLACED AND FINISHED TO THE SATISFACTION OF THE ENGINEER. ANY TEMPORARY PAVEMENT IS INCIDENTAL TO JPC PAVEMENT.

6. THE ABOVE DRAWING DEPICTS THE ORDER OF SLAB REMOVAL WHEN BOTH ARE TO BE REMOVED AT THE SAME LOCATION. WHEN ONLY ONE SLAB OR LANE IS TO BE REMOVED, REMOVE AND REPLACE ACCORDING TO SECTION C, CC, OR CCCC. TRAFFIC CONTROL WILL SPECIFY WHICH LANE TO REMOVE FIRST.

KENTUCKY DEPARTMENT OF HIGHWAYS
CROSS SECTION
APPROVED _____ TEBM DIVISION OF DESIGN _____ DATE

2012 STANDARD DRAWINGS THAT APPLY

CONCRETE BARRIER WALL TYPE 9T (TEMPORARY) RBM-115-09
CONCRETE BARRIER WALL TYPE 9T BOX BEAM STIFFENING (TEMPORARY) RBM-120
CURB TO BARRIER WALL TRANSITION RBM-130-04
FLUME INLET TYPE 1 ..... RDD-020-06
CURVE WIDENING AND SUPERELEVATION TRANSITIONS RGS-001-06
SUPERELEVATION FOR MULTILANE PAVEMENTS RGS-002-05
MISCELLANEOUS STANDARDS PART 1 ..... RGX-001-05
PAVEMENT TRANSITIONS AND JOINT DETAILS FOR NON-REINFORCED CONCRETE PAVEMENT AT BRIDGE ENDS RPN-010-06
NON-REINFORCED CONCRETE PAVEMENT RPN-015-04
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING RPN-020-03
CONCRETE PAVEMENT JOINT DETAILS RPS-010-10
EXPANSION AND CONTRACTION JOINTS - LOAD TRANSFER ASSEMBLIES RPS-020-13
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING RPS-030-05
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING RPS-031-05
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING RPS-032-05
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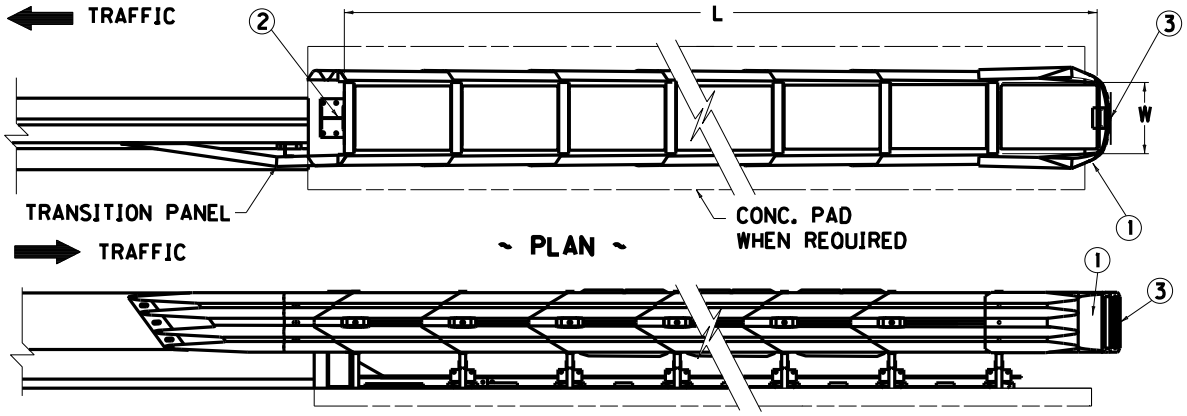
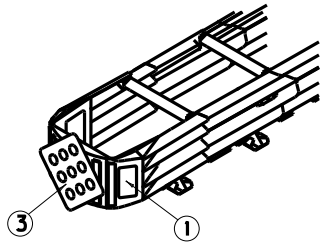
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING RPS-037-05
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING RPS-038-05
CONCRETE PAVEMENT JOINTS - TYPES AND SPACING RPS-039-05
HOT POURED ELASTIC JOINT SEALS FOR CONCRETE PAVEMENT RPX-015-03
LANE CLOSURE TWO-LANE HIGHWAY CASE I TTC-100-03
LANE CLOSURE TWO-LANE HIGHWAY CASE II TTC-105-02
LANE CLOSURE MULTI-LANE HIGHWAY CASE I TTC-115-02
LANE CLOSURE MULTI-LANE HIGHWAY CASE II TTC-120-02
DOUBLE LANE CLOSURE TTC-125-02
SHOULDER CLOSURE TTC-135-01
POST SPLICING DETAIL TTD-110-01
WORK ZONE SPEED LIMIT AND DOUBLE FINE SIGNS TTD-120-01
PAVEMENT CONDITION WARNING SIGNS TTD-125-01
MOBILE OPERATION FOR PAINT STRIPING CASE III TTS-110-01
MOBILE OPERATION FOR PAINT STRIPING CASE IV TTS-115-01
NEOPRENE EXPANSION DAMS AND ARMORED EDGES BJE-001-12

COUNTY OF	ITEM NO.	SHEET NO.

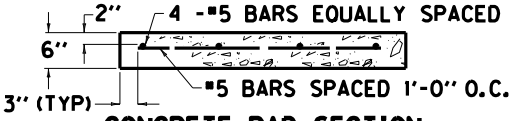


~ PLAN ~

~ ELEVATION ~



~ PICTORIAL VIEW ~



~ CONCRETE PAD SECTION ~
WHEN REQUIRED
(PAD 4'-0" WIDE x SEE CHART FOR LENGTH)

~NOTES~

1. CRASH CUSHION TYPE VI , CLASS B, ★ , △
   ★ EITHER TEST LEVEL 2 (TL2) OR TEST LEVEL 3 (TL3), AS REQUIRED.
   △ SEE "CONNECTION DETAILS OF CRASH CUSHION TYPE VI TO DOUBLE FACE GUARDRAIL".
2. CRASH CUSHION TYPE VI-BT OR CT IS DEPICTED ATTACHED TO A CONCRETE BARRIER (TEMPORARY).
3. WHEN CRASH CUSHION TYPE VI-BT OR CT IS ATTACHED TO STEEL "W" BEAM GUARDRAIL (DOUBLE FACE), ALL APPLICABLE DETAILS SHOWN ON CUR. STD. DWG. RBC-110 , "CONNECTION DETAIL OF CRASH CUSHION TYPE VI TO DOUBLE FACE GUARDRAIL" SHALL BE REQUIRED.
4. WHEN CRASH CUSHION TYPE VI-BT OR CT IS ATTACHED TO STEEL "W" BEAM GUARDRAIL (DOUBLE FACE), THE TRANSITION PANEL SHALL BE ELIMINATED.
5. IN A TWO-WAY TRAFFIC SITUATION FOR A 6" OR 9" TOP WIDTH WALL THE UNIT SHALL BE OFFSET FROM THE CENTERLINE OF THE WALL AS SHOWN IN THE PLAN VIEW. FOR A 12" TOP WIDTH WALL, THE UNIT SHALL BE CENTERED ON THE END OF THE BARRIER.
6. FOR ONE-WAY APPROACH TRAFFIC THE UNIT SHALL BE CENTERED ON THE END OF THE BARRIER.
7. THE COMPLETE INSTALLATION SHALL MEET ALL APPLICABLE REQUIREMENTS OF ENERGY ABSORPTIONS INC. OR TRINITY INDUSTRIES INC.
8. ANCHORAGE DEVICES TO SECURE CRASH CUSHION TO THE EXISTING SURFACE SHALL BE SHOWN ON APPROVED SHOP DRAWINGS.
9. WHEN REQUIRED, THE CONCRETE PAD, PAD EXCAVATION AND STEEL REINFORCEMENT, INSTALLED IN PLACE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CRASH CUSHION TYPE VI. USE CLASS AA CONCRETE TO CONSTRUCT CONCRETE PAD (SEE CONCRETE PAD SECTION FOR STEEL REQUIREMENTS). THE PAD SHALL BE CURED AND FINISHED AS EITHER SIDEWALK OR PAVEMENT. THE CROSS SLOPE OF THE PAD OR PAVEMENT SHALL NOT EXCEED 5%. THE PAD WILL NOT BE REQUIRED WHEN UNIT IS CONSTRUCTED ON RIGID PAVEMENT.
10. THE PAD WILL NOT BE REQUIRED WHEN THE UNIT IS CONSTRUCTED ON EXISTING PAVEMENT OR BRIDGES AND THE COST OF ANCHORING SHALL BE INCLUDED IN THE UNIT PRICE OF THE CRASH CUSHION.
11. USE WITH CURRENT STANDARD DRAWING RBC-110 WHEN CONNECTING TO DOUBLE FACE GUARDRAIL.
12. PERMISSABLE ALTERNATES FOR CRASH CUSHION TYPE VI-BT OR CT ARE PATENTED (ONE SOURCE) ITEMS: ENERGY ABSORPTION SYSTEMS, INC. OF CHICAGO, IL., TRINITY INDUSTRIES, INC. OF DALLAS, TX. OR SCI. PRODUCTS, INC. OF ST. CHARLES, IL.
13. THE MANUFACTURER SHALL FURNISH TWO (2) SETS OF SHOP DRAWINGS TO THE CONTRACTOR WITH EACH INSTALLATION.

CLASS	SPEED (MPH)	ATTENUATOR			APPROX. CU. YD. CONC. FOR PAD
		MODEL	PRODUCT NAME	LENGTH	
B	45 & LESS	TL2	SHORTRACC	14'-0"	1.12
			3-BAY QUADGUARD	12'-0"	0.87
	OVER 45	TL3	TRACC	21'-0"	1.63
			6-BAY QUADGUARD	21'-0"	1.53

A CLASS CT CAN BE USED AT THE CONTRACTOR'S DISCRETION.

~ LEGEND ~

1. NOSE ASSEMBLY
2. CONSTRUCTION ZONE BACKUP
3. OBJECT MARKER TYPE 1, (SEE CUR. MUTCD MANUAL FOR DETAILS) CENTER HORIZ. AND VERT.

USE WITH CUR. STD. DWG. RBE-060 (SEE NOTE 11. FOR ACCOMPANING DRAWINGS).

KENTUCKY
DEPARTMENT OF HIGHWAYS

CRASH CUSHION TYPE VI-BT

SUBMITTED _____ DIRECTOR DIVISION OF HIGHWAY DESIGN
8-24-12 DATE

009

KENTON COUNTY
SDP 050 0275 082 002
FD04
MicroStation v8.11.7.180
E-SHEET NAME:
USER: Jeff.Loll
DATE PLOTTED: August 29, 2012
FILE NAME: C:\PWWORK\JEFF.LAIL\D05I263\SEPIA 009.DGN

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS

TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

LABOR AND WAGE REQUIREMENTS
APPLICABLE TO OTHER THAN FEDERAL-AID SYSTEM PROJECTS

I. APPLICATION

1. These contract provisions shall apply to all work performed on the contract by the contractor with his own organization and with the assistance of workmen under his immediate superintendence and to all work performed on the contract by piecework, station work or by subcontract. The contractor's organization shall be construed to include only workmen employed and paid directly by the contractor and equipment owned or rented by him, with or without operators.

2. The contractor shall insert in each of his subcontracts all of the stipulations contained in these Required Provisions and such other stipulations as may be required.

3. A breach of any of the stipulations contained in these Required Provisions may be grounds for termination of the contract.

II. NONDISCRIMINATION OF EMPLOYEES

AN ACT OF THE KENTUCKY
GENERAL ASSEMBLY TO PREVENT
DISCRIMINATION IN EMPLOYMENT
KRS CHAPTER 344
EFFECTIVE JUNE 16, 1972

The contract on this project, in accordance with KRS Chapter 344, provides that during the performance of this contract, the contractor agrees as follows:

1. The contractor shall not fail or refuse to hire, or shall not discharge any individual, or otherwise discriminate against an individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, national origin, sex, disability or age (between forty and seventy); or limit, segregate, or classify his employees in any way which would deprive or tend to deprive an individual of employment opportunities or otherwise adversely affect his status as an employee, because of such individual's race, color, religion, national origin, sex, disability or age (between forty and seventy). The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor shall not print or publish or cause to be printed or published a notice or advertisement relating to employment by such an employer or membership in or any classification or referral for employment by the employment agency, indicating any preference, limitation, specification, or discrimination, based on race, color, religion, national origin, sex, disability or age (between forty and seventy), except that such notice or advertisement may indicate a preference, limitation, or specification based on religion, or national origin when religion, or national origin is a bona fide occupational qualification for employment.

3. If the contractor is in control of apprenticeship or other training or retraining, including on-the-job training programs, he shall not discriminate against an individual because of his race, color, religion, national origin, sex, disability or age (between forty and seventy), in admission to, or employment in any program established to provide apprenticeship or other training.

4. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment. The contractor will take such action with respect to any subcontract or purchase order as the administrating agency may direct as a means of enforcing such provisions, including sanctions for non-compliance.

III. PAYMENT OF PREDETERMINED MINIMUM WAGES

1. These special provisions are supplemented elsewhere in the contract by special provisions which set forth certain predetermined minimum wage rates. The contractor shall pay not less than those rates.

2. The minimum wage determination schedule shall be posted by the contractor, in a manner prescribed by the Department of Highways, at the site of the work in prominent places where it can be easily seen by the workers.

IV. STATEMENTS AND PAYROLLS

1. All contractors and subcontractors affected by the terms of KRS 337.505 to 337.550 shall keep full and accurate payroll records covering all disbursements of wages to their employees to whom they are required to pay not less than the prevailing rate of wages. Payrolls and basic records relating thereto will be maintained during the course of the work and preserved for a period of one (1) year from the date of completion of this contract.

2. The payroll records shall contain the name, address and social security number of each employee, his correct classification, rate of pay, daily and weekly number of hours worked, itemized deductions made and actual wages paid.

3. The contractor shall make his daily records available at the project site for inspection by the State Department of Highways contracting office or his authorized representative.

Periodic investigations shall be conducted as required to assure compliance with the labor provisions of the contract. Interrogation of employees and officials of the contractor shall be permitted during working hours.

Aggrieved workers, Highway Managers, Assistant District Engineers, Resident Engineers and Project Engineers shall report all complaints and violations to the Division of Contract Procurement.

The contractor shall be notified in writing of apparent violations. The contractor may correct the reported violations and notify the Department of Highways of the action taken or may request an informal hearing. The request for hearing shall be in writing within ten (10) days after receipt of the notice of the reported violation. The contractor may submit

records and information which will aid in determining the true facts relating to the reported violations.

Any person or organization aggrieved by the action taken or the findings established as a result of an informal hearing by the Division of Contract Procurement may request a formal hearing.

4. The wages of labor shall be paid in legal tender of the United States, except that this condition will be considered satisfied if payment is made by a negotiable check, on a solvent bank, which may be cashed readily by the employee in the local community for the full amount, without discount or collection charges of any kind. Where checks are used for payments, the contractor shall make all necessary arrangements for them to be cashed and shall give information regarding such arrangements.

5. No fee of any kind shall be asked or accepted by the contractor or any of his agents from any person as a condition of employment on the project.

6. No laborers shall be charged for any tools used in performing their respective duties except for reasonably avoidable loss or damage thereto.

7. Every employee on the work covered by this contract shall be permitted to lodge, board, and trade where and with whom he elects and neither the contractor nor his agents, nor his employees shall directly or indirectly require as a condition of employment that an employee shall lodge, board or trade at a particular place or with a particular person.

8. Every employee on the project covered by this contract shall be an employee of either the prime contractor or an approved subcontractor.

9. No charge shall be made for any transportation furnished by the contractor or his agents to any person employed on the work.

10. No individual shall be employed as a laborer or mechanic on this contract except on a wage basis, but this shall not be construed to prohibit the rental of teams, trucks or other equipment from individuals.

No Covered employee may be employed on the work except in accordance with the classification set forth in the schedule mentioned above; provided, however, that in the event additional classifications are required, application shall be made by the contractor to the Department of Highways and (1) the Department shall request appropriate classifications and rates from the proper agency, or (2) if there is urgent need for additional classification to avoid undue delay in the work, the contractor may employ such workmen at rates deemed comparable to rates established for similar classifications provided he has made written application through the Department of Highways, addressed to the proper agency, for the supplemental rates. The contractor shall retroactively adjust, upon receipt of the supplemental rates schedule, the wages of any employee paid less than the established rate and may adjust the wages of any employee overpaid.

11. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any laborer or mechanic in any work-week in which he is employed on such work, to work in excess of eight hours in any calendar day or in excess of forty hours in such work-week unless such laborer or mechanic receives compensation at a rate not less than one and one half times his basic rate of pay for all hours worked in excess of eight hours in any calendar day or in excess of forty hours in such work-week. A laborer, workman or mechanic and an employer may enter into a written agreement or a collective bargaining agreement to work more than eight (8) hours a calendar day but not more than ten (10) hours a calendar day for the straight time hourly rate. This agreement shall be in writing and shall be executed prior to the employee working in excess of eight (8) hours, but not more than ten (10) hours, in any one (1) calendar day.

12. Payments to the contractor may be suspended or withheld due to failure of the contractor to pay any laborer or mechanic employed or working on the site of the work, all or part of the wages required under the terms of the contract. The Department may suspend or withhold payments only after the contractor has been given written notice of the alleged violation and the contractor has failed to comply with the wage determination of the Department of Highways.

13. Contractors and subcontractors shall comply with the sections of Kentucky Revised Statutes, Chapter 337 relating to contracts for Public Works.

Revised 2-16-95

EXECUTIVE BRANCH CODE OF ETHICS

In the 1992 regular legislative session, the General Assembly passed and Governor Brereton Jones signed Senate Bill 63 (codified as KRS 11A), the Executive Branch Code of Ethics, which states, in part:

> KRS 11A.040 (6) provides:
>
> No present or former public servant shall, within six (6) months of following termination of his office or employment, accept employment, compensation or other economic benefit from any person or business that contracts or does business with the state in matters in which he was directly involved during his tenure. This provision shall not prohibit an individual from returning to the same business, firm, occupation, or profession in which he was involved prior to taking office or beginning his term of employment, provided that, for a period of six (6) months, he personally refrains from working on any matter in which he was directly involved in state government. This subsection shall not prohibit the performance of ministerial functions, including, but not limited to, filing tax returns, filing applications for permits or licenses, or filing incorporation papers.
>
> KRS 11A.040 (8) states:
>
> A former public servant shall not represent a person in a matter before a state agency in which the former public servant was directly involved, for a period of one (1) year after the latter of:
> a) The date of leaving office or termination of employment; or
> b) The date the term of office expires to which the public servant was elected.

This law is intended to promote public confidence in the integrity of state government and to declare as public policy the idea that state employees should view their work as a public trust and not as a way to obtain private benefits.

If you have worked for the executive branch of state government within the past six months, you may be subject to the law's prohibitions. The law's applicability may be different if you hold elected office or are contemplating representation of another before a state agency.

Also, if you are affiliated with a firm which does business with the state and which employs former state executive-branch employees, you should be aware that the law may apply to them.

In case of doubt, the law permits you to request an advisory opinion from the Executive Branch Ethics Commission, Room 136, Capitol Building, 700 Capitol Avenue, Frankfort, Kentucky 40601; telephone (502) 564-7954.

Kentucky Equal Employment Opportunity Act of 1978

The requirements of the Kentucky Equal Employment Opportunity Act of 1978 (KRS 45.560-45.640) shall apply to this Contract. The apparent low Bidder will be required to submit EEO forms to the Division of Construction Procurement, which will then forward to the Finance and Administration Cabinet for review and approval. No award will become effective until all forms are submitted and EEO/CC has certified compliance. The required EEO forms are as follows:

- EEO-1: Employer Information Report
- Affidavit of Intent to Comply
- Employee Data Sheet
- Subcontractor Report

These forms are available on the Finance and Administration's web page under ***Vendor Information, Standard Attachments and General Terms*** at the following address: **https://www.eProcurement.ky.gov**.

Bidders currently certified as being in compliance by the Finance and Administration Cabinet may submit a copy of their approval letter in lieu of the referenced EEO forms.

For questions or assistance please contact the Finance and Administration Cabinet by email at **finance.contractcompliance@ky.gov** or by phone at 502-564-2874.

General Decision Number: KY120126 08/17/2012 KY126

Superseded General Decision Number: KY20100212

State: Kentucky

Construction Type: Highway

Counties: Boone, Campbell, Kenton and Pendleton Counties in Kentucky.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Modification Number	Publication Date
0	01/06/2012
1	03/02/2012
2	04/06/2012
3	04/13/2012
4	06/01/2012
5	06/22/2012
6	07/13/2012
7	07/20/2012
8	08/03/2012
9	08/17/2012

BRKY0002-005 06/01/2009

	Rates	Fringes
BRICKLAYER	$ 26.12	9.73

BROH0001-005 06/01/2008

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 25.75	8.60

CARP0698-001 05/01/2009

BOONE, CAMPBELL, KENTON & PENDLETON COUNTIES:

	Rates	Fringes
Carpenter & Piledrivermen	$ 27.05	9.69
Diver	$ 40.58	9.69

* ELEC0212-007 05/28/2012

	Rates	Fringes
ELECTRICIAN	$ 26.11	15.42

ELEC0212-013 06/27/2011

	Rates	Fringes
Sound & Communication Technician	$ 21.55	8.46

ENGI0018-013 05/01/2009

	Rates	Fringes
OPERATOR: Power Equipment		
GROUP 1	$ 29.49	12.25
GROUP 2	$ 29.37	12.25
GROUP 3	$ 28.33	12.25
GROUP 4	$ 27.15	12.25
GROUP 5	$ 21.69	12.25
GROUP 6	$ 29.74	12.25
GROUP 7	$ 30.00	12.25

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - Air Compressor on Steel Erection; Barrier Moving Machine; Boiler Operator on Compressor or Generator when mounted on a Rig; Cableway; Combination Concrete Mixer & Tower; Concrete Plant (over 4 yd. Capacity); Concrete Pump; Crane (All Types, Including Boom Truck, Cherry Picker); Crane-Compact, Track or Rubber over 4,000 lbs. capacity; Cranes-Self Erecting, Stationary, Track or Truck (All Configurations); Derrick; Dragline; Dredge (Dipper, Clam or Suction); Elevating Grader or Euclid Loader; Floating Equipment (All Types); Gradall; Helicopter Crew (Operator-Hoist or Winch); Hoe (all types); Hoisting Engine on Shaft or Tunnel Work; Hydraulic Gantry (Lifting System); Industrial-Type Tractor; Jet Engine Dryer (D8 or D9) Diesel Tractor; Locomotive (Standard Gauge); Maintenance Operator Class A; Mixer, Paving (Single or Double Drum); Mucking Machine; Multiple Scraper; Piledriving Machine (All Types); Power Shovel; Prentice Loader; Quad 9 (Double Pusher); Rail Tamper (with auto lifting & aligning device); Refrigerating Machine (Freezer Operation); Rotary Drill, on Caisson work; Rough Terrain Fork Lift with Winch/Hoist; Side-Boom; Slip-Form Paver; Tower Derrick; Tree Shredder; Trench Machine (Over 24" wide); Truck Mounted Concrete Pump; Tug Boat; Tunnel Machine and/or Mining Machine; & Wheel Excavator

GROUP 2 - Asphalt Paver; Automatic Subgrader Machine, Self-Propelled (CMI Type); Bobcat Type and/or Skid Steer Loader with Hoe Attachment Greater than 7,000 lbs.; Boring Machine More than 48"; Bulldozer; Endloader; Hydro Milling Machine; Horizontal Directional Drill (over 500,000 ft. lbs. thrust); Kolman-type Loader (production type-Dirt); Lead Greaseman; Lighting & Traffic Signal Installation Equipment (includes all groups or classifications); Material Transfer Equipment (Shuttle Buggy) Asphalt; Pettibone-Rail Equipment; Power Grader; Power Scraper; Push Cat; Rotomill (all), Grinders & Planers of All types; Trench Machine (24" wide & under); & Vermeer type Concrete Saw

GROUP 3 - A-Frame; Air Compressor on Tunnel Work (low

pressure); Asphalt Plant Engineer; Bobcat-type and/or Skid Steer Loader with or without Attachments; Highway Drills (all types); Locomotive (narrow gauge); Material Hoist/Elevator; Mixer, Concrete (more than one bag capacity); Mixer, one bag capacity (Side Loader); Power Boiler (Over 15 lbs. Pressure) Pump Operator installing & operating Well Points; Pump (4" & over discharge); Roller, Asphalt; Rotovator (lime soil stabilizer); Switch & Tie Tampers (without lifting & aligning device); Utility Operator (Small equipment); & Welding Machines

GROUP 4 - Backfiller; Ballast Re-locator; Bars, Joint & Mesh Installing Machine; Batch Plant; Boring Machine Operator (48" or less); Bull Floats; Burlap & Curing Machine; Concrete Plant (capacity 4 yd. & under); Concrete Saw (Multiple); Conveyor (Highway); Crusher; Deckhand; Farm-type Tractor with attachments (highway) except Masonry); Finishing Machine; Fireperson, Floating Equipment (all types); Fork Lift (highway); Form Trencher; Hydro Hammer; Hydro Seeder; Pavement Breaker; Plant Mixer; Post Driver; Post Hole Digger (Power Auger); Power Brush Burner; Power Form Handling Equipment; Road Widening Trencher; Roller (Brick, Grade & Macadam); Self-Propelled Power Spreader; Self-Propelled Power Subgrader; Steam Fireperson; Tractor (Pulling Sheepfoot, Roller or Grader); & Vibratory Compactor with Integral Power

GROUP 5 - Compressor (Portable, Sewer, Heavy & Highway); Drum Fireperson (Asphalt); Generator; Masonry Fork Lift; Inboard-Outboard Motor Boat Launch; Masonry Fork Lift; Oil Heater (asphalt plant); Oiler; Power Driven Heater; Power Sweeper & Scrubber; Pump (under 4" discharge); Signalperson; Tire Repairperson; & VAC/ALLS

GROUP 6 - Master Mechanic & Boom from 150 to 180

GROUP 7 - Boom from 180 and over

IRON0044-008 06/01/2012

	Rates	Fringes
Ironworkers:		
Fence Erector	$ 22.50	18.10
Structural	$ 24.80	18.10

IRON0372-004 06/01/2012

	Rates	Fringes
IRONWORKER, REINFORCING		
Beyond 30-mile radius of Hamilton County, Ohio Courthouse	$ 26.59	18.58
Up to & including 30-mile radius of Hamilton County, Ohio Courthouse	$ 26.34	18.58

LABO0189-004 07/01/2012

PENDLETON COUNTY:

	Rates	Fringes
LABORER		
GROUP 1	$ 21.15	11.41
GROUP 2	$ 21.40	11.41
GROUP 3	$ 21.45	11.41
GROUP 4	$ 22.05	11.41

LABORERS CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter Tender; Cement Mason Tender; Cleaning of Machines; Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson; Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler; Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer); Brickmason Tender; Mortar Mixer Operator; Scaffold Builder; Burner & Welder; Bushammer; Chain Saw Operator; Concrete Saw Operator; Deckhand Scow Man; Dry Cement Handler; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level C; Forklift Operator for Masonary; Form Setter; Green Concrete Cutting; Hand Operated Grouter & Grinder Machine Operator; Jackhammer; Pavement Breaker; Paving Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

GROUP 3 - Asphalt Luteman & Raker; Gunnite Nozzleman; Gunnite Operator & Mixer; Grout Pump Operator; Side Rail Setter; Rail Paved Ditches; Screw Operator; Tunnel (Free Air); Water Blaster

GROUP 4 - Caisson Worker (Free Air); Cement Finisher; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Levels A & B; Miner & Driller (Free Air); Tunnel Blaster; & Tunnel Mucker (Free Air); Directional & Horizontal Boring; Air Track Driller (All Types); Powderman & Blaster; Troxler & Concrete Tester if Laborer is Utilized

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LABO0265-009 05/01/2011

BOONE, CAMPBELL & KENTON COUNTIES:

	Rates	Fringes
LABORER		
GROUP 1	$ 25.82	8.75
GROUP 2	$ 25.99	8.75
GROUP 3	$ 26.32	8.75

GROUP 4.....$ 26.77 8.75

LABORER CLASSIFICATIONS

GROUP 1 - Asphalt Laborer; Carpenter Tender; Concrete Curing Applicator; Dump Man (Batch Truck); Guardrail and Fence Installer; Joint Setter; Laborer (Construction); Landscape Laborer; Highway Lighting Worker; Signalization Worker; Mesh Handlers & Placer; Right-of-way Laborer; Riprap Laborer & Grouter; Scaffold Erector; Seal Coating; Surface Treatment or Road Mix Laborer; Sign Installer; Slurry Seal; Utility Man; Bridge Man; Handyman; Waterproofing Laborer; Flagperson; Hazardous Waste (level D); Diver Tender; Zone Person & Traffic Control

GROUP 2 - Skid Steer; Asphalt Raker; Concrete Puddler; Kettle Man (Pipeline); Machine Driven Tools (Gas, Electric, Air); Mason Tender; Brick Paver; Mortar Mixer; Power Buggy or Power Wheelbarrow; Sheeting & Shoring Man; Surface Grinder Man; Plastic Fusing Machine Operator; Pug Mill Operator; & Vacuum Devices (wet or dry); Rodding Machine Operator; Diver; Screwman or Paver; Screed Person; Water Blast, Hand Held Wand; Pumps 4" & Under (Gas, Air or Electric) & Hazardous Waste (level C); Air Track and Wagon Drill; Bottom Person; Cofferdam (below 25 ft. deep); Concrete Saw Person; Cutting with Burning Torch; Form Setter; Hand Spiker (Railroad); Pipelayer; Tunnel Laborer (without air) & Caisson; Underground Person (working in Sewer and Waterline, Cleaning, Repairing & Reconditioning); Sandblaster Nozzle Person; & Hazardous Waste (level B)

GROUP 3 - Blaster; Mucker; Powder Person; Top Lander; Wrencher (Mechanical Joints & Utility Pipeline); Yarner; Hazardous Waste (level A); Concrete Specialist; Concrete Crew in Tunnels (With Air-pressurized - $1.00 premium); Curb Setter & Cutter; Grade Checker; Utility Pipeline Tapper; Waterline; and Caulker

GROUP 4 - Miner; & Gunite Nozzle Person

TUNNEL LABORER WITH AIR-PRESSURIZED ADD $1.00 TO BASE RATE

SIGNAL PERSON WILL RECEIVE THE RATE EQUAL TO THE RATE PAID THE LABORER CLASSIFICATION FOR WHICH HE OR SHE IS SIGNALING.

PAIN0012-016 05/01/2012

	Rates	Fringes
Painters:		
Bridge	$ 24.10	8.33
Bridge Equipment Tender and Containment Builder	$ 20.49	8.33
Brush & Roller	$ 23.10	8.33
Sandblasting & Water Blasting	$ 23.85	8.33
Spray	$ 23.60	8.33

PLUM0392-008 06/01/2012

	Rates	Fringes
PLUMBER	$ 29.30	16.59

SUKY2010-161 02/05/1996

	Rates	Fringes
Truck drivers:		
GROUP 1	$ 15.85	4.60
GROUP 2	$ 16.29	4.60

TRUCK DRIVER CLASSIFICATIONS

GROUP 1 - Driver

GROUP 2 - Euclid Wagon; End Dump; Lowboy; Heavy Duty Equipment; Tractor-Trailer Combination; & Drag

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any

changes in the collective bargaining agreements governing the rate.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

Fringe benefit amounts are applicable for all hours worked except when otherwise noted.

These rates are listed pursuant to the Kentucky Determination No. CR-III-IV-HWY dated September 5, 2012.

No laborer, workman or mechanic shall be paid at a rate less than that of a Journeyman except those classified as bona fide apprentices.

Apprentices or trainees shall be permitted to work as such subject to Administrative Regulations adopted by the Commissioner of Workplace Standards. Copies of these regulations will be furnished upon request from any interested person.

Before using apprentices on the job the contractor shall present to the Contracting Officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U. S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U. S. Bureau of Apprenticeship and Training.

The contractor shall submit to the Contracting Officer, written evidence of the established apprenticeship-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

TO: EMPLOYERS/EMPLOYEES

PREVAILING WAGE SCHEDULE:

The wages indicated on this wage schedule are the least permitted to be paid for the occupations indicated. When an employee works in more than one classification, the employer must record the number of hours worked in each classification at the prescribed hourly base rate.

OVERTIME:

Overtime is to be paid after an employee works eight (8) hours a day or forty (40) hours a week, whichever gives the employee the greater wages. At least time and one-half the base rate is required for all overtime. A laborer, workman or mechanic and an employer may enter into a written agreement or a collective bargaining agreement to work more than eight (8) hours a calendar day but not more than ten (10) hours a calendar day for the straight time hourly rate. Wage violations or questions should be directed to the designated Engineer or the undersigned.

Ryan Griffith, Director
Division of Construction Procurement
Frankfort, Kentucky 40622

PART IV

INSURANCE

INSURANCE

The Contractor shall procure and maintain the following insurance in addition to the insurance required by law:

1) Commercial General Liability-Occurrence form – not less than $2,000,000 General aggregate, $2,000,000 Products & Completed Aggregate, $1,000,000 Personal & Advertising, $1,000,000 each occurrence.

2) Automobile Liability- $1,000,000 per accident

3) Employers Liability:

   a) $100,000 Each Accident Bodily Injury
   b) $500,000 Policy limit Bodily Injury by Disease
   c) $100,000 Each Employee Bodily Injury by Disease

4) The insurance required above must be evidenced by a Certificate of Insurance and this Certificate of Insurance must contain one of the following statements:
   a) "policy contains no deductible clauses."
   b) "policy contains _____ (amount) deductible property damage clause but company will pay claim and collect the deductible from the insured."

5) KENTUCKY WORKMEN'S COMPENSATION INSURANCE. The contractor shall furnish evidence of coverage of all his employees or give evidence of self-insurance by submitting a copy of a certificate issued by the Workmen's Compensation Board.

The cost of insurance is incidental to all contract items. All subcontractors must meet the same minimum insurance requirements.

PART V

BID ITEMS

PROPOSAL BID ITEMS

Report Date 11/26/12

Section: 0001 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRICI	FP	AMOUNT
0010	00001		DGA BASE	1,000.00	TON		$	
0020	00214		CL3 ASPH BASE 1.00D PG64-22	5,600.00	TON		$	
0030	00339		CL3 ASPH SURF 0.38D PG64-22	790.00	TON		$	
0040	01690		FLUME INLET TYPE 1	4.00	EACH		$	
0050	01897		ASPHALT WEDGE CURB	2,750.00	LF		$	
0060	02003		RELOCATE TEMP CONC BARRIER	610.00	LF		$	
0070	02014		BARRICADE-TYPE III	4.00	EACH		$	
0080	02025		JPC PAVEMENT-11 IN/24	220.00	SQYD		$	
0090	02058		REMOVE PCC PAVEMENT	14,620.00	SQYD		$	
0100	02060		PCC PAVEMENT DIAMOND GRINDING	12,000.00	SQYD		$	
0110	02115		SAW-CLEAN-RESEAL TVERSE JOINT	85,000.00	LF		$	
0120	02116		SAW-CLEAN-RESEAL LONGIT JOINT	115,000.00	LF		$	
0130	02383		REMOVE & RESET GUARDRAIL	1,200.00	LF		$	
0140	02562		SIGNS	2,670.00	SQFT		$	
0150	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		$	
0160	02654		TRUCK MOUNTED ATTENUATOR	6.00	EACH		$	
0170	02671		PORTABLE CHANGEABLE MESSAGE SIGN	8.00	EACH		$	
0180	02696		SHOULDER RUMBLE STRIPS-SAWED	13,000.00	LF		$	
0190	02775		ARROW PANEL	4.00	EACH		$	
0200	02898		RELOCATE CRASH CUSHION	1.00	EACH		$	
0210	03171		CONCRETE BARRIER WALL TYPE 9T	610.00	LF		$	
0220	03298		EXPAN JOINT REPLACE 4 IN	496.60	LF		$	
0230	03299		ARMORED EDGE FOR CONCRETE	496.60	LF		$	
0240	04793		CONDUIT-1 1/4 IN	80.00	LF		$	
0250	04795		CONDUIT-2 IN	20.00	LF		$	
0260	04820		TRENCHING AND BACKFILLING	90.00	LF		$	
0270	04829		PIEZOELECTRIC SENSOR	6.00	EACH		$	
0280	04830		LOOP WIRE	3,900.00	LF		$	
0290	04895		LOOP SAW SLOT AND FILL	685.00	LF		$	
0300	06511		PAVE STRIPING-TEMP PAINT-6 IN	27,000.00	LF		$	
0310	06513		PAVE STRIPING-TEMP PAINT-12 IN	10,000.00	LF		$	
0320	06515		PAVE STRIPING-PERM PAINT-6 IN	7,550.00	LF		$	
0330	06549		PAVE STRIPING-TEMP REM TAPE-B8 INCH	10,500.00	LF		$	
0340	06550		PAVE STRIPING-TEMP REM TAPE-W6 INCH	20,500.00	LF		$	
0350	06551		PAVE STRIPING-TEMP REM TAPE-Y6 INCH	17,000.00	LF		$	
0360	08150		STEEL REINFORCEMENT	1,602.80	LB		$	
0370	08504		EPOXY SAND SLURRY	69.00	SQYD		$	
0380	08510		REM EPOXY BIT FOREIGN OVERLAY	1,531.00	SQYD		$	
0390	08526		CONC CLASS M FULL DEPTH PATCH	4.00	CUYD		$	
0400	08534		CONCRETE OVERLAY-LATEX	63.00	CUYD		$	
0410	08549		BLAST CLEANING	1,599.00	SQYD		$	
0420	08903		CRASH CUSHION TY VI CLASS BT TL3	1.00	EACH		$	
0430	10020NS		FUEL ADJUSTMENT	8,736.00	DOLL	$1.00	$	$8,736.00
0440	10030NS		ASPHALT ADJUSTMENT	15,394.00	DOLL	$1.00	$	$15,394.00
0450	20359NN		GALVANIZED STEEL CABINET	2.00	EACH		$	
0460	20360ES818		WOOD POST	4.00	EACH		$	
0470	20391NS835		ELECTRICAL JUNCTION BOX TYPE A	2.00	EACH		$	
0480	24094EC		PARTIAL DEPTH PATCHING	25.00	CUYD		$	

PROPOSAL BID ITEMS

Report Date 11/26/12

Section: 0002 - DEMOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRICI	FP	AMOUNT
0490	02569		DEMOBILIZATION	1.00	LS		$	